Increases Stripmaking Capacity

Semifinished Material Is Reheated in Furnaces of the Recuperative Type—Hot Mill Train Is Designed for a Maximum Delivery of 1600 Feet a Minute—Description of Installation Is Presented

By E. C. Barringer

FROM recuperative furnace to coilers the new hot strip mill which the Acme Steel Co., formerly known as the Acme Steel Goods Co., is bringing in at its plant at Riverdale, a suburb of Chicago, stands for the most advanced practice in the industry. It connotes speed and power. Finishing capacity is geared up to a maximum rate of 1600 feet per minute, making possible an annual capacity of 150,000 tons. To operate the 14 stands of the 20-16-inch continuous mill requires motors aggregating 12,200 in horsepower.

With this new unit the Acme company has at Riverdale a yearly rating of 225,000 tons of hot and 75,000 tons of cold-rolled strip, plus general manufacturing facilities to absorb a portion of the hot strip output under certain market conditions. This entire development dates back only to 1919, and reflects the constantly broadening demand for strip steel, especially from automotive interests.

The new hot strip mill is housed in a mill type building, of standard steel and sheet metal construction, 70 feet wide x 2160 feet long. Alternate sections of the sides are removable. A maximum of light is afforded by continuous sash. The building in effect is an extension of the pickling and annealing building of the cold-rolled mill, which was erected late in 1923 and described in IRON TRADE REVIEW of Jan. 31, 1924. From slab storage to the pickling of that portion of the output destined for cold rolling is a straight line operation.

Inspect the mill beginning with the gas producers, which are set up just outside the furnace end of the mill building, and follow operations through in chronological order. Coal for the two producers, each having a capacity of 4000 pounds per hour, is discharged into hoppers and elevated to the bins. Gas from the producers passes through dust legs and soot collectors into the main header leading into the furnaces. This header is 6 feet in diameter, lined with 2½ inches of special insulating brick and 4½ inches of fire brick; it is sufficiently large to carry the gas from two additional producers should they be required.

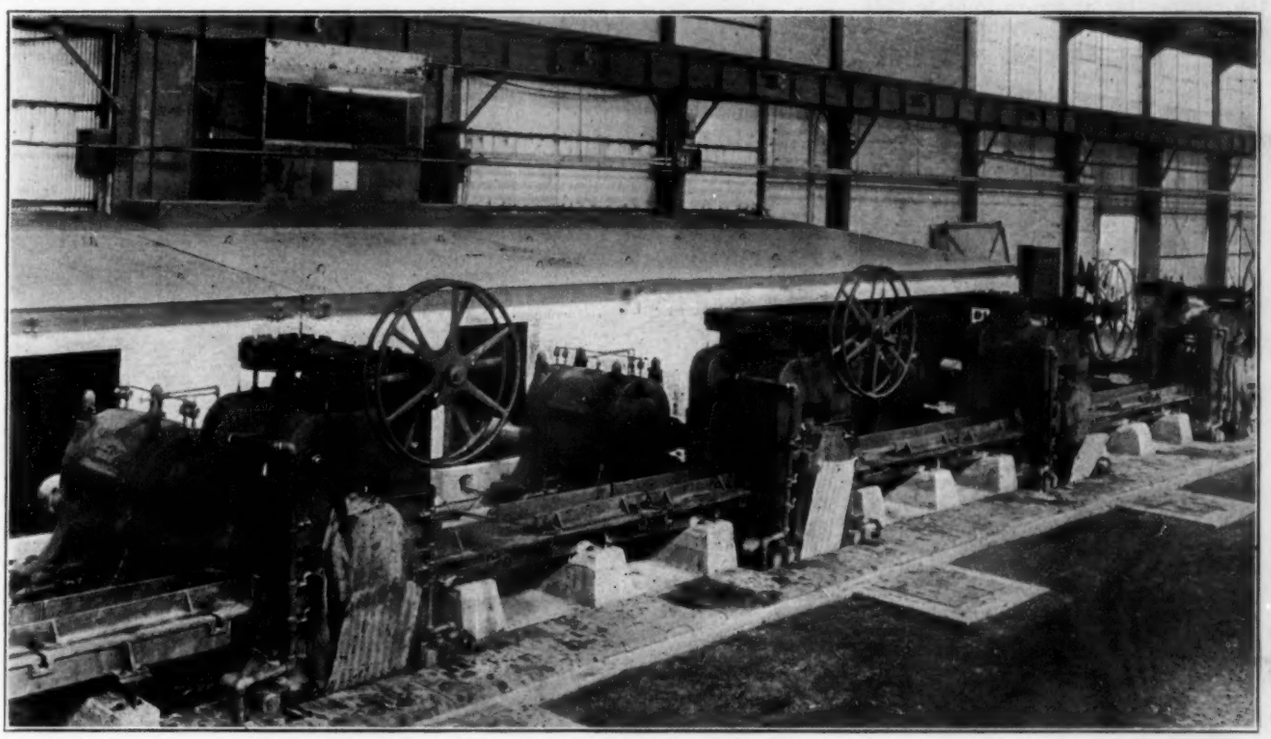


FIG. 1—FOUR STANDS OF ROLLS ARE INCULDED IN THE FINISHING TRAIN. ABOVE THE MOTOR HOUSE AT THE LEFT IS THE PULPIT FROM WHICH THE MOTORS ARE CONTROLLED

The furnaces, of which there are two with foundations for a third, are unique in that they are of the recuperative type, dispensing with the necessity for introducing air by blowers or fans, and so far as is known are the first of this type to be installed in a hot strip mill. These furnaces, which are designed for a capacity of 20 tons of slabs per hour, are capable of standing considerable overload. The charging ends project into the slab storage building, 100 x 240 feet. A 10-ton traveling crane unloads slabs from an interior siding and charges the furnaces. There is storage capacity for about 10,000 tons. Slabs vary from 3 to 21 inches in width and 2½ to 3 inches in thickness.

Air enters at the bottom of the Stein-type recuperator, rises to the top by means of a natural draft, passes through a flue to the firing end of the furnace and mixes there with incoming gas. The products of combustion pass over and under the slabs, by reason of the split flame method of firing, to the charging end of the furnace, where they turn down and enter the recuperator. After making three horizontal passes through the recuperator they are drawn off at the bottom to the flue leading to outside stack; each furnace has its individual stack. In passing through the recuperator the air is heated to 1300 degrees Fahr., which is within 400 degrees of the temperature of the waste gases. The waste gases enter the recuperator at approximately 1700 degrees and pass out at 600. A consumption of only 170 pounds of coal per ton of steel heated is guaranteed.

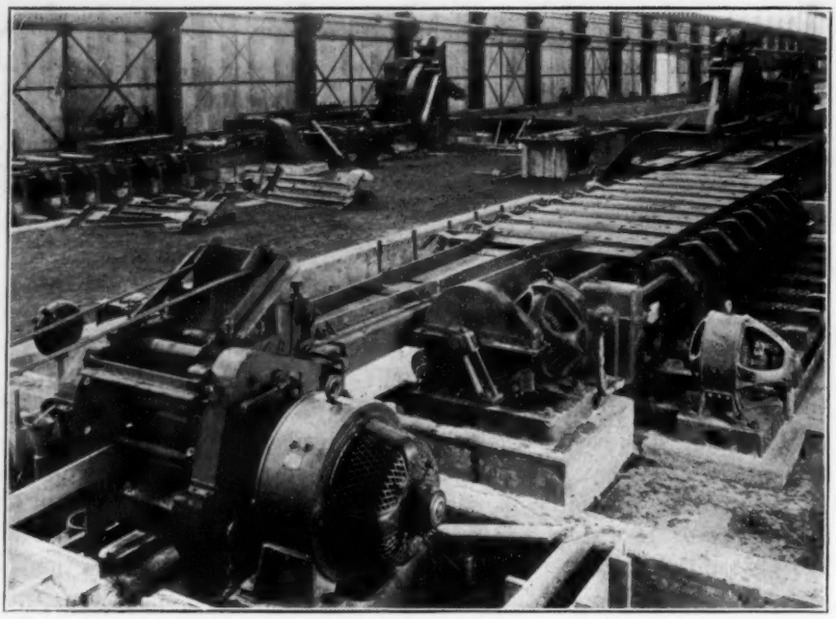


FIG. 3—AUTOMATIC COILING MACHINE IN THE FOREGROUND AND TWO SHEARS LOCATED AT END OF HOT BED

All controls for the electrically-operated pushers of both furnaces are concentrated at a station on a platform between the furnaces. This platform is of Irving-type subway grating, making for coolness. The slabs, which are deposited on the pushers by the 10-ton traveling crane, are put through the furnaces on four water-cooled skids, consisting of 2½-inch double-extra heavy seamless tubing with a ¾-inch bead welded on top. This bead eliminates the cold or black spots which would result if the slabs rested on the tubing itself.

The furnaces are 12 feet overall, inside, and can take double rows of short slabs or a single row of 11-foot slabs. The split flame firing affords another advantage in that it makes possible slag pockets under the skids at the firing end of the furnace. These pockets have a bottom of coke breeze. Slag and cinder can be raked out at any time, obviating interruptions by

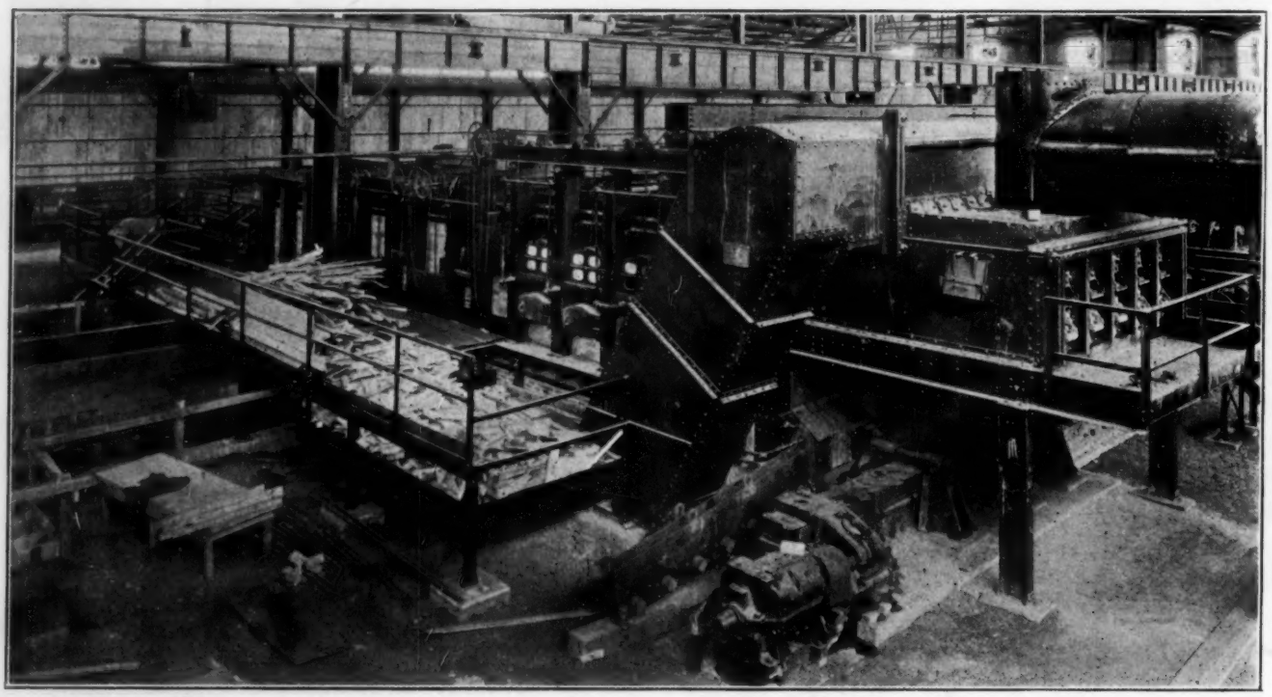


FIG. 2—DISCHARGE END OF ONE OF THE RECUPERATIVE FURNACES. BEYOND THE CRANE RUNWAY IS THE SLAB STORAGE DEPARTMENT RECEIVING SLABS FROM THE INSIDE TRACK

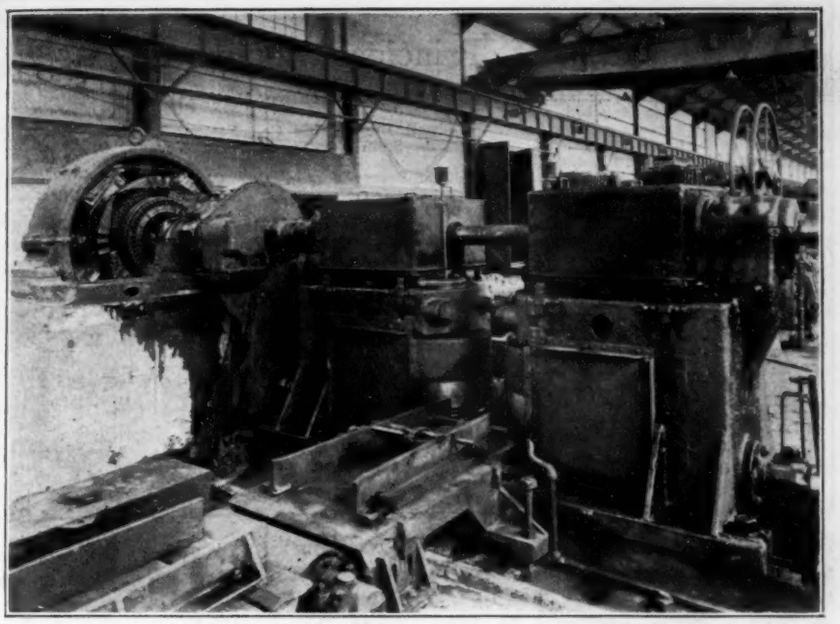


FIG. 4—VERTICAL EDGING MILL WHICH IS POSITIONED IN THE ROUGHING TRAIN BETWEEN STANDS NOS. 5 AND 7

accumulations. The heated slabs are discharged by gravity upon a roller table and carried to the slab shear, between the furnace and the first stand of roughing rolls, where they are divided into desired lengths.

The roughing mill proper comprises seven stands, all equipped with 20-inch rolls. The first is a standard horizontal edger, the second and third are flat passes, the fourth is a horizontal edger, the fifth a flat pass, the sixth a vertical edger and the seventh a flat pass. All but the sixth are driven by a line shaft connected to a 1500-horsepower alternating-current motor and the sixth by a 100-horsepower direct-current motor.

In the intermediate mill are three stands. The first is a vertical edger driven by a 100-horsepower direct-current motor. The second and third are flat passes, in which 16-inch rolls are employed; both are driven through reduction gears, the first by a 1500-horsepower and the second by an 1800-horsepower direct-current motor.

Each of the four stands of the finishing mill is driven by 1800-horsepower direct-current motors, direct connected. The rolls are 16-inches. Hand wheel screwdowns are employed here, as on the roughing and intermediate mills. Bearings and gears on all the mills are lubricated by a circulating system. There is a pressure tank for the bearings and another for the gears. The oil on returning is filtered and reused.

Jutting out from wall opposite the finishing mills and constituting a balcony of the motor-generator room behind it is a pulpit. From this glass-enclosed position are operated all of the mill motors for the roughing, intermediate and finishing operations, save the motors for the two vertical edgers which are controlled from the mill floor. An instrument board reveals the load and speed of all of the motors. On the desk are hand wheels for effecting quick changes in speed and push buttons for the more delicate adjustments. The speed of the intermediate and finishing operations is at all times under the control of the one operator. On the wall opposite this pulpit is a platform carrying the controls for the air-operated loop throwers of the intermediate and finishing mills.

No portion of the new hot strip unit has received more intensive study than the line, transformer and motor-generator rooms, which are alongside the finishing mill. When the new unit is in full operation the Acme company will be the largest commercial customer of the Commonwealth

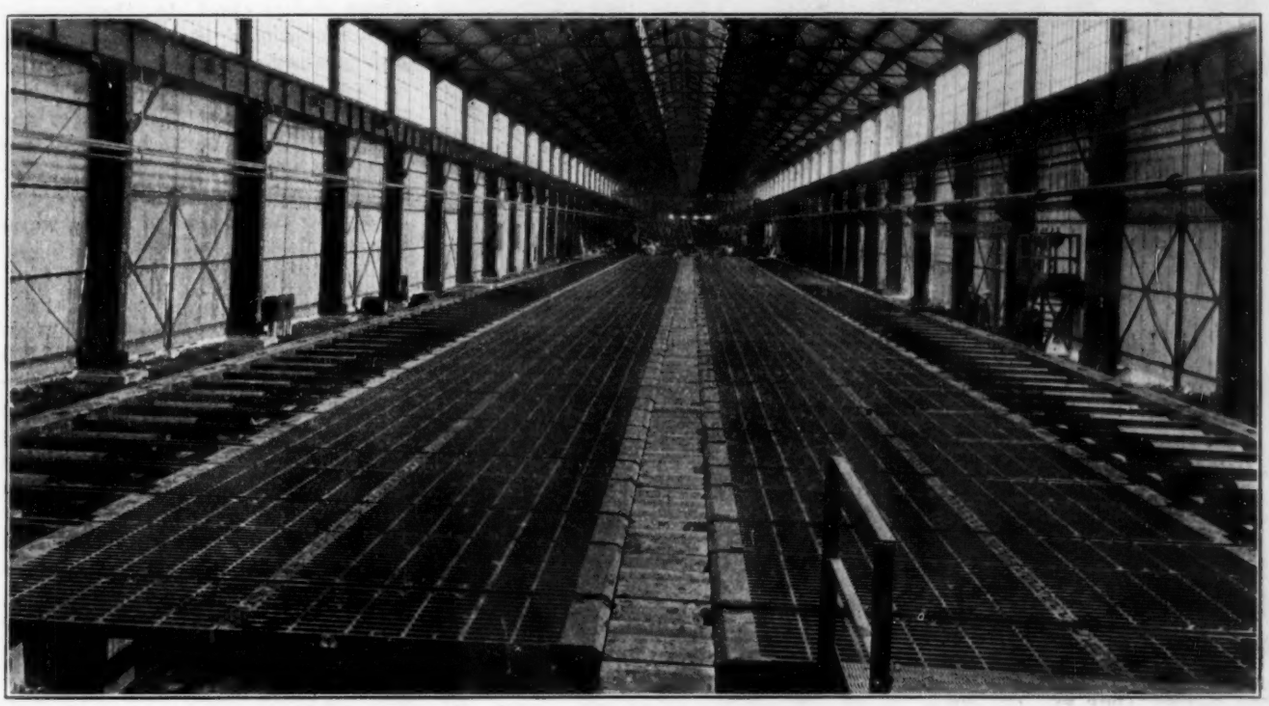


FIG. 5—COOLING BED, 250 FEET LONG, WHICH SERVES THE NEW HOT STRIP MILL. THE OUTSIDE ROLLER TABLES EACH TERMINATE IN A MOTOR-DRIVEN SHEAR

Edison Co., supplying the greater Chicago district, with the exception of the transportation agencies.

The line and transformer rooms are brick, 65 x 160 feet. Power is received at a voltage of 12,000 and stepped down in three transformers to 2300 volts. These transformers are mounted on rails set on a concrete base 15 inches off the floor. In case any transformer gives out it can be disconnected, pushed upon a transfer car and run out under the cranes serving the main building. It is estimated that a transformer could be thus removed in 10 minutes. All three transformers are in use, though two can carry the load. The foundations are in for a second bank of transformers.

The motor-generator room is 55 x 110 feet. There are two units each consisting of a 2850-horsepower 2200-volt 3-phase 60-cycle synchronous motor driving at each end a 1000-kilowatt 600-volt direct-current generator. Provision has been made for two more similar units or larger if required. Switchboards are of the truck type, permitting any one section to be wheeled out and replaced or repaired at leisure.

Beneath the motor-generator room is a 10-foot basement. All bus bar and cable construction is carried on the ceiling. At one end are two blowers and a filter, employed to force clean, cool air into the basement. The foundation under the motor-generator sets being cored, there is a constant upward flood of cool air. Concrete ducts carry a draft to the motors on the intermediate and finishing mills and cool them similarly. The blower also delivers air to the motor-generator room at slight pressure and thus prevents dust and dirt from mill operations from entering. In the basement, also, are two 9 x 8-inch air compressors, with automatic pressure control.

The runout rolls leading from the last stand of the finishing mill are individually driven by ½-horsepower direct-current motors, there being 97 all told. Belted to the last set of rolls is the generator supplying these motors, and as the speed of the rolls varies the runout rolls respond immediately.

The cooling bed is 50 feet wide x 250 feet long, of the double-bed type. The strip is kicked off alternately to each side and carried across the bed by transfer bars to shuffle bars, which deposit it in turn on roller tables. These tables lead to the vertical shears positioned at each side of the bed. Lengths are determined by a sliding gage. Each shear feeds into an automatic piler. The legs of the two piler tables on each side of the bed rest upon scale beams. For handling coiled stock there are two automatic coilers and a 6-ton warehouse scale.

Storage Space Is Ample

Back of the automatic coilers is storage space, large enough for 12,000 tons of finished stock. An inside loading track facilitates shipping. At this end of the structure, which is immediately adjacent to the pickling department of the new cold-rolled mill, are three pickling vats—one for acid, one for hot water and one for liming—for handling strip so specified.

Between the present finishing stands and the cooling bed is space for two more finishing mills. The main mill building is served by a 25-ton traveling crane, with a 5-ton auxiliary hook, and a 10-ton traveling crane.

Makers of Principal Equipment

Hot and cold mills	E. W. Bliss Co., Brooklyn, N. Y.
Tables, shears, cooling bed, pilers, coilers and furnace pushers	Treadwell Engineering Co., Easton, Pa.
Heating furnaces	Chapman-Stein Furnace Co., Mt. Vernon, O.
Gas producers, flues, dust legs and soot collectors	Wellman-Seaver-Morgan Co., Cleveland
Electrical equipment	Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Cranes	Whiting Corp., Harvey, Ill.
Coal handling equipment	Link-Belt Co., Chicago
Reduction gears	Farrell Foundry & Machine Co., Buffalo
Circulating oiling system	S. F. Bowser & Co., Ft. Wayne, Ind.
Air compressors	Ingersoll-Rand Co., New York
Blowers	Buffalo Forge Co., Buffalo
Air filter	Reed Air Filter Co., Louisville, Ky.
Grating	Irving Iron Works, Long Island City, N. Y.
Installation of grating	T. W. Hughes, Chicago
Scales	Fairbanks, Morse & Co., Chicago
Scale attachment	Weightograph Co., St. Louis
Mill buildings	McClintic-Marshall Co., Chicago
Boilers	Union Iron Works, Erie, Pa.
Boiler stokers	Illinois Stoker Co., Alton, Ill.
Centrifugal pumps	Allis-Chalmers Mfg. Co., Milwaukee
Stand pipe	Chicago Bridge & Iron Works, Chicago

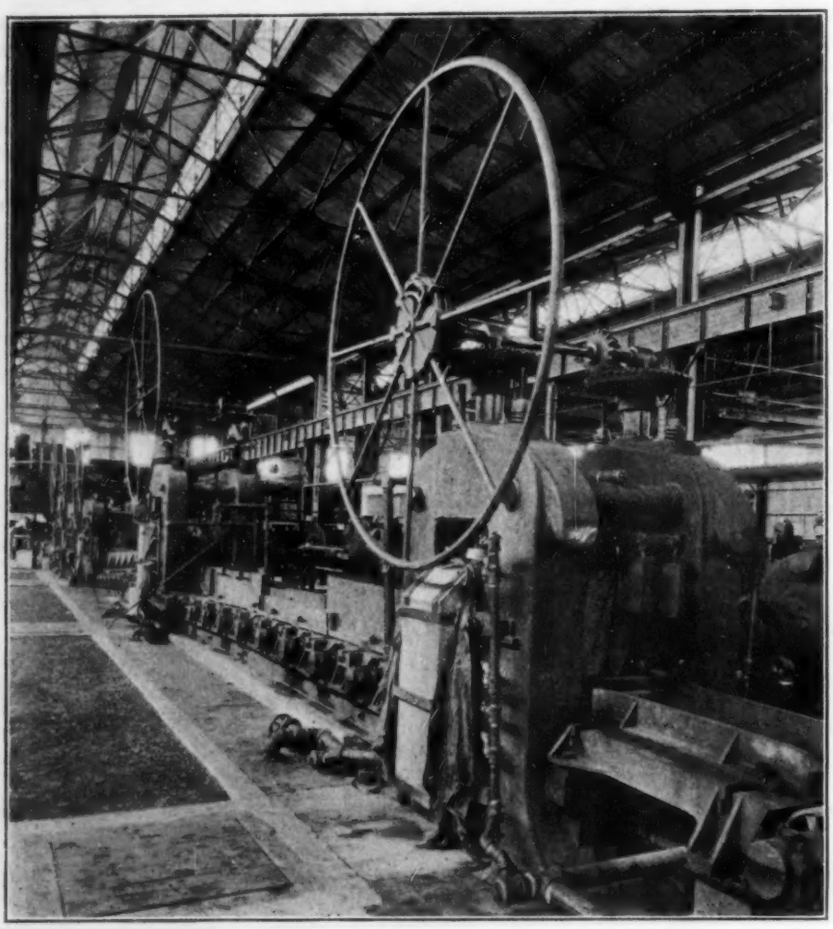


FIG. 6—A PORTION OF THE ROUGHING TRAIN LOOKING TOWARD THE HEATING FURNACES

The 30 and 10-ton traveling cranes serving the pickling and annealing departments of the cold-rolled mill can be operated also in the hot mill building.

The construction of the new hot strip unit necessitated additions to the supply departments of the Riverdale plant, including two 500-horsepower boilers, stoker equipped, a 237-foot concrete stack, two 3600-gallon motor-driven centrifugal pumps and a 105 x 120-foot steel stand pipe.

In addition to the 150,000 tons of hot strip, ranging from 3 to 20 inches in width and including all standard gages, which can be rolled on the new unit the Acme company at Riverdale has a capacity of 75,000 tons on its Morgan-type 10-inch continuous hoop mill. Cold-rolled equipment comprises 48-10-inch mills adjacent to the Morgan mill and five 10-inch, six 12-inch and five 16-inch mills in the new cold-rolled addition.

Officials of the Acme company are: Chairman, James E. MacMurray; president, R. H. Norton; vice president, F. C. Gifford; vice president and secretary, Donald MacMurray; and treasurer and works manager at Riverdale, Charles S. Traer.

Issues Trade Standards

Trade standards adopted by the Compressed Air society have been issued in a second edition for reference by those interested in its production and use. Several tables relating to compressed air and a chapter of general information relating to commercial practices have been added in the newer edition.

The book presents nomenclature and terminology relating to air compressors, history of the development of speeds of compressors, explanation of capacities and pressures.

Ore Shipments Increase 25 Per Cent

WASHINGTON, July 6.—Iron ore mined in the United States in 1925, exclusive of ore that contained more than 5 per cent of manganese, is estimated by Hubert W. Davis, of the bureau of mines, department of commerce, at 62,079,000 gross tons, an increase of 14 per cent as compared with that mined in 1924. The ore shipped from the mines in 1925 is estimated at 63,819,000 gross tons, valued at $159,363,000, an increase of 23 per cent in quantity and of 5 per cent in total value as compared with the figures for 1924. The average value of the ore per gross ton at the mines in 1925 is estimated at $2.50; in 1924 it was $2.91.

Stocks of iron ore at the mines, mainly in Michigan and Minnesota, apparently decreased from 12,410,619 gross tons in 1924 to 10,774,000 tons in 1925, or 13 per cent. The considerable increase in output may be ascribed in part to a better demand for steel and to general speeding up in pig iron manufacture during 1925. The decrease in the average value of iron ore at the mines of 41 cents a ton was largely due to the lowering of base prices of Lake Superior iron ores 50 cents a ton for the season of 1925. Lesser decreases in values occurred in all the other groups of states.

These estimates are based on preliminary figures furnished by producers of about 99 per cent of the normal output of iron ore. They show the totals for the principal iron ore producing states and by grouping together certain states, the totals for the Lake Superior district and for groups of southeastern, northeastern and western states.

About 85 per cent of the iron ore shipped in 1925 came from the Lake Superior district, in which approximately 52,316,000 gross tons was mined and 54,124,000 tons was shipped, increases of 16 and 26 per cent, respectively, as compared with the quantities mined and shipped in 1924. The ore shipped in 1925 was valued at $138,061,000, an increase of 5 per cent. These totals include the ore from the Mayville and Baraboo mines in Wisconsin and ore shipped by rail as well as by water from all mines, but exclude manganiferous ores that contained more than 5 per cent of manganese.

The stocks of iron ore in the Lake Superior district apparently decreased from 11,095,787 gross tons in 1924 to 9,398,000 tons in 1925, or 15 per cent. The stocks at the end of 1925 were about 1,069,000 tons less than the average for the preceding five years. The average value of the ore at the mines in the Lake Superior district in 1925 was $2.55; in 1924 it was $3.04.

Imports of iron ore reported for the 11 months ended Nov. 30, 1925, amounted to 1,950,648 gross tons, valued at $6,396,425, or $3.28 a ton. The imports for the year 1924 were 2,047,055 gross tons, valued at $10,580,904, or $5.17 a ton. The reported exports of iron ore for the 11 months ended Nov. 30, 1925, amounted to 629,572 gross tons, valued at $2,409,015, or $3.83 a ton, as compared with exports for the entire year 1924 of 595,413 tons, valued at $2,407,003, or $4.04 a ton.

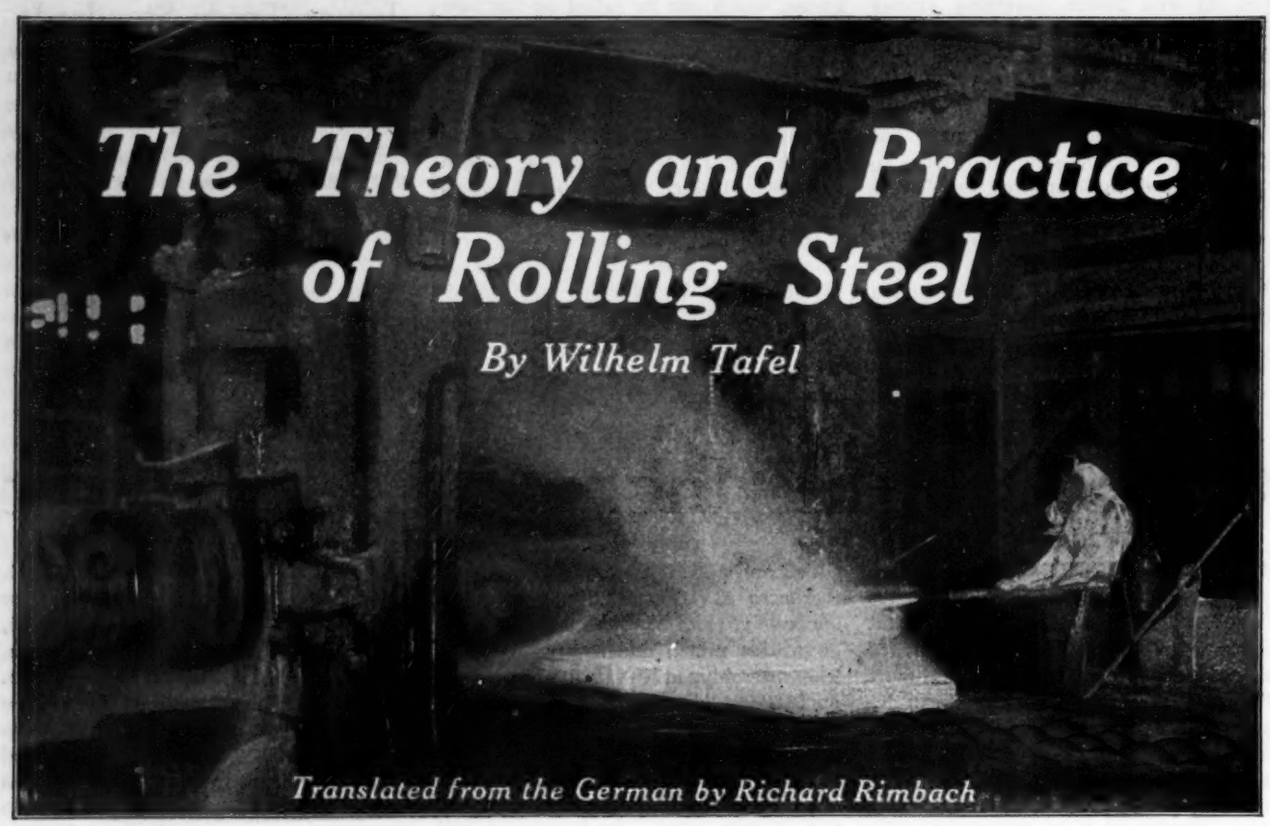
The accompanying table shows the quantity and value of the iron ore shipped in the United States by the principal producing states. Figures for 1924 are final, but those for 1925 are subject to revision when fuller data are available.

Iron Ore Shipments and Values Compared

District	1924 Gross tons	1924 Value	1925 Gross tons	1925 Value
Lake Superior:				
Michigan	11,248,641	$35,605,902	15,218,000	$40,172,000
Minnesota	31,076,114	93,311,092	37,970,000	95,608,000
Wisconsin	786,006	2,044,762	936,000	2,281,000
	43,110,761	130,961,756	54,124,000	138,061,000
Southeastern states:				
Alabama	6,557,596	13,927,551	6,896,000	14,698,000
Georgia	112,059	285,128	112,000	314,000
Missouri	79,847	405,622	40,000	148,000
North Carolina	12,525	32,512	24,000	53,000
Tennessee	179,293	431,682	133,000	282,000
Virginia	91,759	250,279	57,000	128,000
	7,033,079	15,332,774	7,262,000	15,623,000
Northeastern states:				
New Jersey	101,123	420,488	163,000	730,000
New York	303,386	1,448,616	394,000	1,892,000
Ohio	244		2,000	
Pennsylvania	807,411	1,881,366	923,000	1,460,000
	1,212,164	3,750,470	1,482,000	4,082,000
Western states	727,371	1,262,105	951,000	1,597,000
Grand total	52,083,375	151,307,105	63,819,000	159,363,000

Ore prices were fixed three times by the government in 1918. The intermediate price has been used. War tax on freight in 1919, 1920 and 1921 was not included.

There were no Mesabi nonbessemer prices between 1890 and 1895. Old range bessemer prices, less 30 cents per ton, were used in the table. This 30 cents difference is the average for the next succeeding ten-year period.



The Theory and Practice of Rolling Steel

By Wilhelm Tafel

Translated from the German by Richard Rimbach

Chapter V — Continued

THE reader, who has worked out the design for the tee and the channel, will easily understand the considerations and calculations in Table XI and the pass drawings in Fig. 140.

Through the courtesy of Karl Holzweiler the design of a 29.528 x 11.811 x 0.827-inch broad flanged I-beam, is shown in Fig. 142 and Table XII. This design originated through the improvement of one previously existing, in which the web inclined strongly toward buckling. This condition arises mostly with profiles having a thin web and heavy flange drafts because the web is not able to pull the profiles along, if for any reason the rolling speed is accelerated. The web moreover suffers from the excessive compressive stresses of the heavier neighboring parts and if they exceed a certain amount the web is pushed together and causes the formation of waves. The web has a much larger working diameter than is found at the tops of the flanges and between the top and the bottom of the flanges. The web is thrown forward in exactly the same manner as with a heavier draft.

Finally the wave formation often is caused by the flanges being release from the grooved roll with difficulty and thus holding back the web. To prevent the wave formation the web is drawn strongly all over and has not been given any draft in the last passes in the middle of the

Table XI
Roll Pass Design for a 4.724 x 2.283" I-Beam

No. of the Pass	WEB							FLANGES																		
								Above (Left)							Below (Right)							Above (Left)			Below (Right)		
								Thickness in inches			Indirect Draft in inches				Thickness in inches			Indirect Draft in inches				Radii				
	d Thickness in inches	Draft %	Draft inches	b Spread in inches	B Width in inches	Q Cross-Section in Sq. inch	u Elongation Q_0/Q_1	Above	Below	Center	Above	Below	H Height in inches	Q Cross-Section in Sq. inch	u Elongation Q_0/Q_1	Above	Below	Center	Above	Below	H Height in inches	Q Cross-Section in Sq. inch	u Elongation Q_0/Q_1	Outer r	Inner ϱ	Fillet ϱ_1	Outer r'	Inner ϱ'	Fillet ϱ'_1
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
VII	0.201	....	....	....	4.764	0.956	....	0.228	0.378	0.303	....	....	1.051	0.318	....	0.228	Closed 0.378	0.303	....	....	1.051	0.318	....	0.201	0.110	....	0.201	0.110	....
VI	0.230	12.8	0.030	0.039	4.724	1.091	1.14	*0.232 0.244	Closed 0.449	0.344	0.016	0.071	†1.063 1.055	0.363	1.143	0.205	Open 0.374	0.289	....	....	†1.220 1.252	0.363	1.143	0.276	0.110	0.002	0.276	0.110	....
V	0.329	30	0.098	0.078	4.646	1.528	1.60	0.232	Open 0.445	0.339	....	....	1.319	0.446	1.230	*0.268 0.299	Closed 0.693	0.480	0.091	0.315	†1.220 1.197	0.570	1.570	0.551	0.118	....	0.551	0.157	0.059
IV	0.512	36	0.183	0.059	4.587	2.558	1.535	*0.346 0.362	Closed 0.835	0.591	0.130	0.390	1.319	0.778	1.740	0.268	Open 0.728	0.498	....	0.035	†1.575 1.850	0.780	1.365	0.866	0.236	0.138	0.827	0.236	....
III	0.846	39.5	0.335	0.098	4.488	3.798	1.618	0.323	Open 0.906	0.614	....	0.071	1.732	1.063	1.365	0.472	Closed 1.417	0.945	0.205	0.689	†1.575 1.535	1.451	1.850	0.906	0.236	....	1.415	0.591	0.118
II	1.457	42	0.610	0.157	4.331	6.309	1.67	0.512	Closed 1.457	0.984	Irregular 0.189	0.551	1.614	1.589	1.500	~ 0.551	Open 1.457	1.604	Irregular 0.079	0.039	1.772	1.783	1.230	1.220	0.315	0.157	2.480 0.984	1.220	....
I	2.598	44	1.142	....	4.331	11.253	1.781	~ 0.551	~ Open 1.457	1.004	Irregular 0.039	....	1.772	1.783	....	0.709	Closed 1.890	1.550	....	....	0.709	....	....	2.480 0.984	1.220	....	0.906	0.591	0.197
Ingot	5.118	49	2.520	....	4.134	21.158	1.88																						

*Denotes that the filling of the steel is not based on the calculation of the pass shape.
†Pass shape carried out.

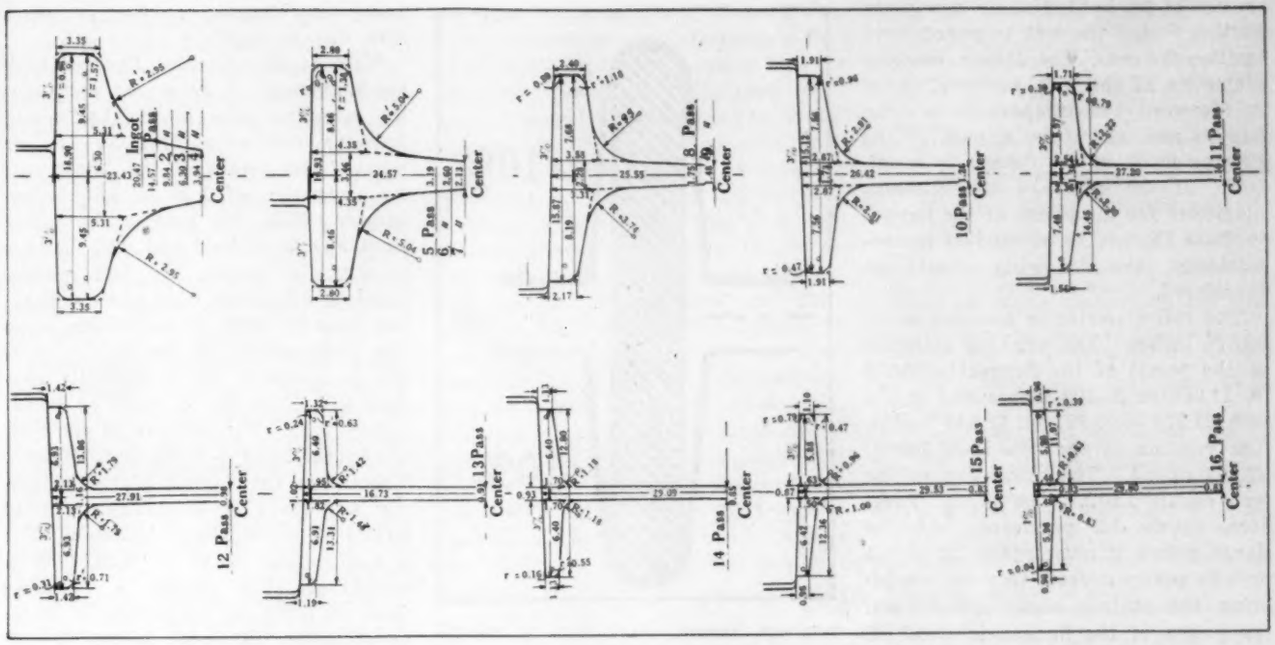


FIG. 142—DETAILS OF THE PASS DESIGN OF A 29.528 X 11.61-INCH BROAD FLANGE I-BEAM

profile. On the contrary a gradually increasing draft against the flanges has been provided.

In addition to the draft the working diameters in the web are different, even though in a smaller amount than in the case of flanges. The wear of the roll in the flanges and in the web, therefore, will be more uniform so that the draft relations are less influenced by it. The web is stiffened by the slightly conical shape, which may offer an increased resistance to the formation of the waves. The strains between the flange and web become less. The idea is to have the web pulled by the flanges instead of vice versa. If the web were to be held back over its whole length, large stresses would occur at the transition of the web to the most heavily compressed base of the flange. These are reduced with the proposed method, in that at the transition point the web is given a heavier draft, and due to its slight conicity the stock can flow easier from the heavily compressed flanges into the slighter elongated web. In other words the method mitigates the abrupt draft transition between flange and web and handles the two as a whole so that, the natural elongation in the points of the flange starts low, then increases to the base of the flanges, in order to go again gradually to a minimum from here to the center of the web, in the last passes to zero.

In line 11 of Table XII the elongation of the web and in lines 19 and 27 that of both halves of the flanges, which are calculated without consid-

Table XII
Roll Pass Design for a 29.528x11.811" I-Beam

Number of the Pass	Number of Passes	WEB: d Thickness in inches, At the Edge	WEB: d Thickness in inches, Halfway	WEB: d Thickness in inches, In the Center	WEB: Draft, %	WEB: Draft, Inches	WEB: b Spread in inches	WEB: B Width in inches	WEB: Q Cross-Section in Sq. In.	WEB: n Elongation	UPPER FLANGE: d Thickness in inches, Above	UPPER FLANGE: d Thickness in inches, Below	UPPER FLANGE: d Thickness in inches, Center	UPPER FLANGE: Di Indirect Draft in inches, Above	UPPER FLANGE: Di Indirect Draft in inches, Below	UPPER FLANGE: H Height in inches	UPPER FLANGE: Q Cross-Section in Sq. In.	UPPER FLANGE: n Elongation	LOWER FLANGE: d Thickness in inches, Above	LOWER FLANGE: d Thickness in inches, Below	LOWER FLANGE: d Thickness in inches, Center	LOWER FLANGE: Di Indirect Draft in inches, Above	LOWER FLANGE: Di Indirect Draft in inches, Below	LOWER FLANGE: H Height in inches	LOWER FLANGE: Q Cross-Section in Sq. In.	LOWER FLANGE: n Elongation	RADII IN INCHES: Inner, r'	RADII IN INCHES: Inner, r	RADII IN INCHES: Outer, R'	RADII IN INCHES: Outer, R
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
X	16	0.827	0.827	0.827	.....	.....	.....	29.803	24.645	.....	0.984	Open 1.476	1.230	.....	.....	5.571	6.867	.....	0.984	Closed 1.476	1.230	.....	.....	5.571	6.867	.....	0.394	0.039	0.827	0.827
IX	15	0.866	0.827	0.847	2.3	0.020	0.276	29.528	24.955	1.012	1.102	Closed 1.674	1.368	0.118	0.157	5.512	7.449	1.100	0.984	Open 1.504	1.244	.....	~~0.028~~	5.984	7.456	1.085	0.472	0.079	0.965	1.004
VIII	14	0.925	0.850	0.888	4.7	0.041	0.433	29.094	25.808	1.032	1.134	Open 1.705	1.419	~~0.031~~	~~0.071~~	5.935	8.448	1.120	1.134	Closed 1.705	1.419	0.150	0.201	5.935	8.448	1.130	0.551	0.157	1.181	1.181
VII	13	1.024	0.906	0.965	8.0	0.077	0.551	28.543	27.513	1.066	1.319	Closed 1.949	1.634	0.185	0.244	6.280	10.277	1.121	1.193	Open 1.819	1.506	~~0.059~~	~~0.114~~	6.398	9.657	1.142	0.630	0.236	1.417	1.476
VI	12	1.161	0.984	1.073	10.1	0.108	0.630	27.913	29.915	1.088	1.417	Open 2.126	1.772	~~0.098~~	~~0.177~~	6.358	11.253	1.094	1.417	Closed 2.126	1.772	0.224	0.307	6.358	11.253	1.163	0.709	0.315	1.791	1.791
V	11	1.378	1.102	1.240	13.5	0.157	0.709	27.205	23.713	1.126	1.713	Closed 2.539	2.126	0.295	0.413	6.280	13.361	1.183	1.555	Open 2.362	1.959	~~0.138~~	~~0.256~~	6.791	13.315	1.180	0.787	0.394	2.224	2.303
IV	10	1.732	1.260	1.496	17.1	0.256	0.787	26.417	38.528	1.171	1.910	Open 2.864	2.392	~~0.197~~	~~0.338~~	6.693	15.981	1.200	1.910	Closed 2.864	2.392	0.354	0.512	6.693	15.981	1.200	0.984	0.472	2.913	2.913
III	9	2.283	1.476	1.880	20.4	0.384	0.866	25.551	48.050	1.214	2.402	Closed 3.583	2.992	0.492	0.709	6.535	19.530	1.220	2.165	Open 3.307	2.736	~~0.256~~	~~0.433~~	7.047	19.251	1.200	1.181	0.591	3.740	3.858
	8		1.752																											
II	7	3.465	2.126	2.795																										
	6		2.598		32.8	0.915	0.984	24.173	68.665	1.430	2.795	Closed 4.252	3.524	~~0.394~~	~~0.669~~	6.732	23.715	1.213	2.795	Closed 4.252	3.524	~~0.630~~	~~0.945~~	6.732	23.715	1.230	1.378	0.787	5.039	5.039
	5		3.189																											
	4	6.299	2.937	5.118																										
I	3		6.299		45.0	2.323	1.142	23.425	119.970	1.745	3.347	Closed 5.315	4.331	~~0.551~~	~~1.063~~	6.299	27.280	1.150	3.347	Closed 5.315	4.331	~~0.551~~	~~1.063~~	6.299	27.280	1.150	1.575	0.984	6.890	6.890
	2		9.843																											
	1		14.567																											
Ingot			20.472																											

The figures which are crossed out denote, that Indirect Draft is given in the Closed Pass. This is permissible where the Closed Pass still has fairly oblique outlines. As in this case it is not wholly Indirect, but a medium between this and Direct Draft

eration of the pulling along, are given. In this design the web is pulled hard by the flanges. The larger working diameters of the web, however, throw it forward in comparison to the flanges and, therefore, a part of the greater draft in the flanges is equalized. If the effect of the different diameters for the points of the flanges in Pass IX, are to be studied mathematically, the following should be considered.

The roll diameter is assumed to be 39.370 inches. The working diameter at the points of the flanges is 39.370 — 11.968 or 27.402 inches and in the web 39.370 — 0.827 or 38.543 inches. The relation of the two is 38.543 ÷ 27.402 or 1.4. The elongation in the web equals 1.012. The draft, therefore, equals 1.2 per cent. At the flange points it must equal 1.2 × 1.4 or 1.68 per cent from this on, considering the pulling along. Therefore, the points of the flanges in Pass IX must at least have a thickness of (0.984 × 100) ÷ (100 — 1.68) or 1.000 inch. In actual practice it is equal to 1.102 inches which indicates that the point of the web, compared with the web, still moves forward considerably.

Actual Drafts Vary

In the last passes, in which the web goes through with almost no draft, it will be smaller than in the roughing passes, so that in the web the actual drafts and elongations are somewhat larger, than given by the calculation. The web is pulled and, therefore, stretched by the flanges. The wave formation, thus is hindered even if the flanges are held back in places by freeing themselves from the roll with difficulty. The design was not laid out originally on the basis of the surface calculation, as it is here recommended for shapes and ordinarily carried out, but so that all the linear dimensions of the profiles receive the same reduction. The elongations therefore cannot agree absolutely with those theoretically correct.

The methods used in this design to lessen the abrupt transitions and to energetically prevent an acceleration of thin cross-sectional parts by small draft on the web, decreasing toward the center, deserve to be used also for smaller profiles, with which there

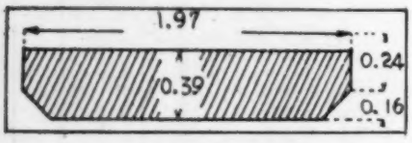


FIG. 143—PROFILE OF A BEVELED TIRE SECTION

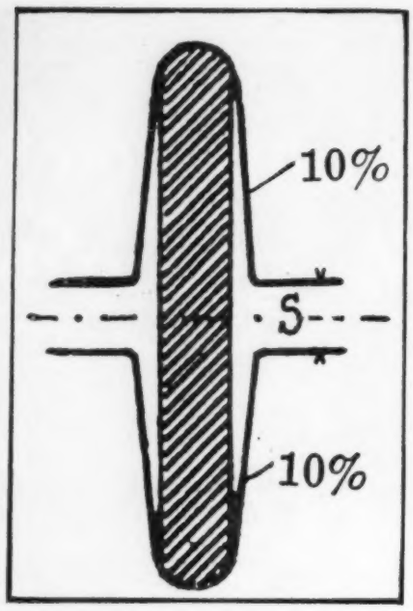


FIG. 144—EDGING PASS FOR A ROUND-EDGE TIRE SECTION

are the dangers of large strains and wave formation.

Although a half round is a simple profile, it is one of the few which necessitates deviation from the basic principle of small drafts in the finishing pass. This is permissible, because with half rounds for ornamental rods and with strap rods, etc., customers permit liberal tolerances in dimensions. With half round tires for baby buggies, it is a case of smaller profiles, similar to wire, which can be coiled in long lengths. The cooling at all places, therefore remains exactly the same. If homogeneous material is pro-

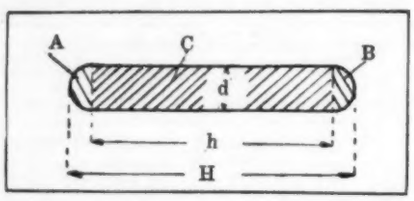


FIG. 145—PROFILE OF A ROUND-EDGE TIRE SECTION

vided the main causes for unequal dimensions with heavy draft are eliminated.

Where it is a case though of large profiles with low tolerances in height and width, a finishing pass must also be provided with the half round, which has small drafts. The following considerations then do not hold for the last but for the second last pass. The draft in the former can be assumed as 5 to 10 per cent. The spread naturally is larger than with flats, because the material compressed as a rule about 10 per cent in the center prevents material at the sides going into length, so that it must give way in width.

With smaller profiles figures check approximately, if from the rectangular roughing pass to the half-round finishing profiles a draft of 10 per cent of the height of the latter and an elongation of 1.40 to 1.50 is assumed. With flat profiles the upper limit should be held and with thicker profiles, the lower. For half rounds, 0.630 × 0.315-inch, this gives a shaping pass of 0.532 × 0.346-inch, since the cross section of the finished profile is assumed as a parabolic surface 2/3 × 0.630 × 0.315 or 0.013-square inch. The draft is 10 per cent, the height 0.315 + 0.031 or 0.346-inch. From this the spread of the roughing pass is (1.4 + 0.013) ÷ 0.346 equals or approaches 0.532-inch. For a half round 0.630 × 0.157-inch a well-known tire profile, a roughing pass of 0.571 × 0.173-inch is calculated, since the cross section is 2/3 × 0.630 × 0.157 equals or approaches 0.0065-square inch. From this the spread is (0.0065 × 1.5) ÷ 0.173 equals or approaches 0.571. For half rounds with a large curvature the area of half an elipse can be taken as the basis of the cross section. From this example, therefore, (3.1416 ÷ 2) × 0.315 × 0.157 equals or approaches 0.0077-square inch and the width equals 0.669-inch.

How Shaping Accomplished

At some plants, tires for light wagons as shown in Fig. 145, are made from round edge flats instead of square edge. In shaping a flat rod is turned up and passed through the edging roll, into which a half round depression has been cut out with a taper of about 10 per cent, as shown in Fig. 144. The spring, *s*, must be about equal to the edging draft, because the flat, due to this influence, folds somewhat. For the same reason the rod, after edging, again must be passed flat through the finishing roll. The flattening is characterized by an increase in width which has to be counteracted by a lowering of the edging roll. This is only possible, if *s* is large enough.

To determine the dimensions of the flat entered into the edging roll the finished profile shown in Fig. 145, is divided into three cross-sectional parts namely, *A* and *B* half-rounds, and, *C*

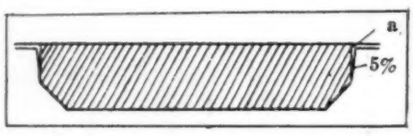


FIG. 146—FINISHING PASS FOR A BEVELED TIRE SECTION

a rectangular cross-section. For the former we determine the dimensions according to the foregoing rules. The latter must receive an elongation of 1.4 as the half rounds, from which its height before the edging pass results.

If the edge parts to be deformed were given a draft of about 10 per cent and the center part, *C*, were disregarded, a wholly insufficient rounding would result. The draft would not be transposed into the desired change in shape but would lengthen the part *C*.

For example, if *h* is to be 1.969 inches, *d* 0.394-inch, the final draft 0.059-inch, the spread 0.020-inch, the hot dimension to equal or approach 1.989 inches, the height leaving the edging roll, *h*, 1.969 inches, and the total height, *H*, 2.362 inches, then the roughing pass for the parts *A* and *B* or 0.394 × 0.197-inch half rounds is, according to the foregoing, 0.217 × [(0.0077 × 2/3 × 1.4) ÷ 0.217] = 0.217 × 0.335-inch. The central part, *C*, also must be elongated 1.4 times and, therefore, would have a height of 1.969 × 1.4 or 2.756 inches. The total height of the rod to be entered into the edging pass must be 2 × 0.217 + 2.756 or 3.189 inches. The thickness must be larger than 0.335-inch because the central rectangle spreads less than the half round ends. It is adjusted by raising or lowering the roughing roll. The edging pass is given at least a width of 0.394 + 0.059-inch.

The beveled tire profile requires a wholly different design than the round edge tire section as the bevels shown in Fig. 143 can only be rolled flat. The development of the bevel is not possible with one draft as with the round edges for a draft of about 0.157-inch is needed to displace the material at the corners or more than is permitted in one finishing pass. A rod of about 0.394 or 0.433-inch thickness would not be sufficient as a starting profile, to roll the bevel. A draft of about 0.197-inch at the edge of the lower part of the profile would not squeeze away the 0.157-inch of material. Of this draft at least 60 per cent would go to the upper bevel and not to the bevel part. At the most only a 0.079-inch bevel would result. From two to three shaping passes are required depending on the size of the bevel, draft stages of about 0.079 and 0.236 and the spread as with flats from 0.25*d* to 0.35*d*. The bevel is permitted to decrease from the last toward the first pass and, therefore, is chosen about 0.157, 0.138 and 0.118-inch.

The parting of the passes can only be provided at the side which is not beveled. This is cumbersome, because the steel eventually will squeeze out at the particular place, forming a fin. In the starting passes it might lead to unsightly bevels and damaged material. In the finishing pass it would not be permissible. To prevent this, spread and about 5 per cent taper, is provided. The edges are not exactly perpendicular in this case but this arrangement protects the most severely stressed corners from excessive wear. Furthermore the first shaping groove is entered with a rectangular profile so that the well rounded corners will last through the shaping passes up to the final pass. The roughing passes are made closed and the finishing passes open as shown in Fig. 146. By this arrangement any fin formation is removed from the bearing surface of the tire. Due to the spring of the rolls the fins will occur as a slight bulb as shown at *a* in Fig. 146.

What a Life for Churnsides!

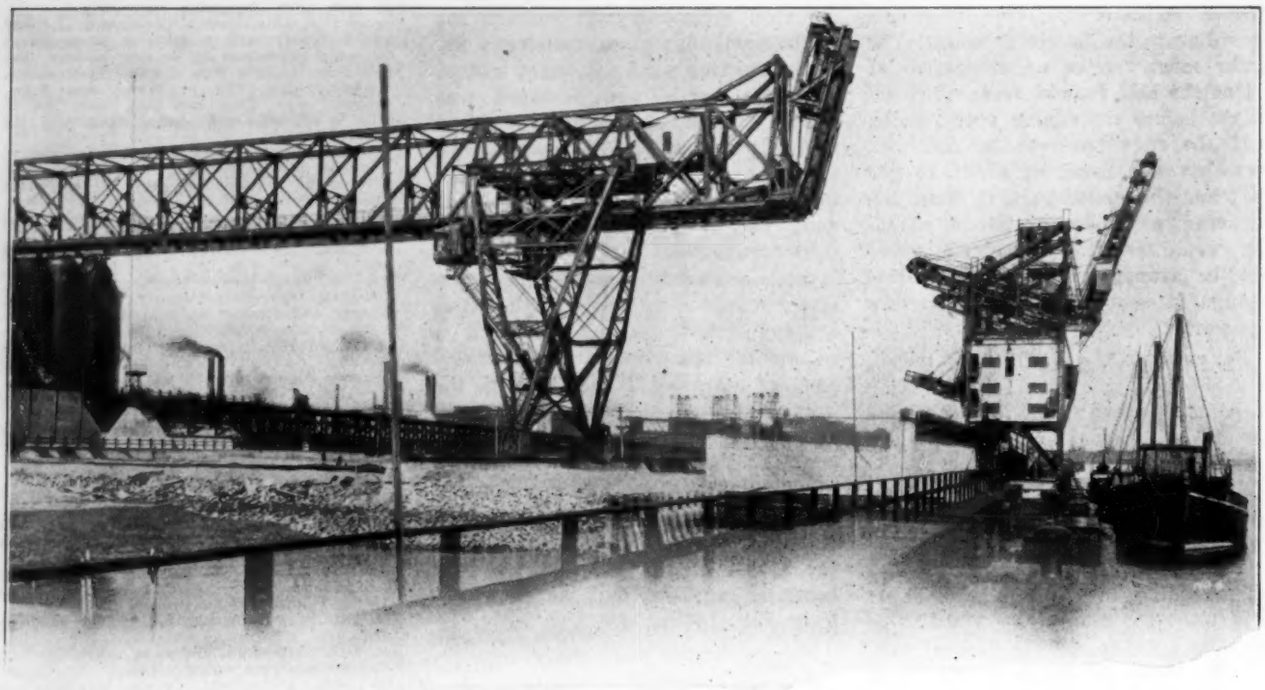
Made Sheet Iron and Nails; Turned Rolls; Built Hen House and Stables —Originial George

IN THE early days of the rolling mill industry in this country, the various jobs around the mill had not reached the dignity of calling for specialized workers. Socalled handy men proved their skill is doing anything to which they were assigned. from turning a roll to building a chicken coop. Identified with the early history of the Alan Wood Iron & Steel Co. is the epic of George Churnsides. The story of his versatility, of his rise and fall, is contained in entries in the Day Book of John Wood who in those days managed the company's original mill at Wooddale, Del. The force at Wooddale numbered eight to ten men who were boarded and housed by the company and, in addition were paid usually at the rate of $5 a week. The story of George Churnsides is contained in the following:

July 7th, 1840—George Churnsides blackamithing.
July 10th, 1840—George Churnsides harvesting.
July 10th, 1840—George Churnsides putting up wall at forebay.
July 17th, 1840—George Churnsides putting up wall in tail race.
July 21st, 1840—Repairing water wheel.
August 21st, 1840—George Churnsides and self (John Wood) sent to Betts & Stotensburgs to make alterations in housing pattern. Received one housing from Betts & Statsenburg, is badly cast, full of lumps and holes, crooked, etc. They say they want me to chip it off, etc., and charge them with the expense.
Aug. 24th, 1840—George and Jimmy worked one-half day at housing, will not answer, afterwards Statsenburg says he will cast another in place of it.
Aug. 31st, 1840—George Churnsides making a hen house.
Sept. 8th, 1840—George making a turning rest.
Sept. 9th, 1840—George levelling pinions.
Sept. 15th, 1840—Raised housing this morning. George and Jimmy blacksmithing this afternoon.
Oct. 7th, 1840—No work at mill today, only burning coal for nothing to run. George turning edging rolls.
Oct. 13th, 1840—George and hands paving floor in mill this afternoon.
Oct. 19th, 1840—George turning rolls, broke down one heat, first and second time finished—very handsome.
Oct. 21st, 1840—Made 72 sheets good iron.
Nov. 14th, 1840—Out of iron. George turned rolls this morning.
Nov. 21st, 1840—Clean, cold, heavy frost, mill stopped for want of iron (iron came in evening). George building a stable.
Nov. 30th, 1840—Broke bottom roll after rolling about a dozen pieces, breaking down, no blame is attached to George.
Dec. 1st, 1840—Clear and cold, George bundling iron.
Dec. 16th, 1840—Rain and snow nearly all day, George repairing water wheel.
Jan. 14th, 1841—Rain, George turning rolls (Won't work well) done nothing of any account in mill this week.
March 10th, 1841—George making a pig pen.
March 20th, 1841—Water wheel all went to pieces this day with a tremendous crash, will be stopped until we get a new one.
April 5th, 1841—G. Churnsides pointing nails.
May 8th, 1841—George Churnsides and James Weir making bolts for water wheel.
May 20th, 1841—George making spikes, etc., for water wheel.
June 19th, 1841—George discovered a crack in top roll after breaking down one heat. Considered best to spot for fear of breaking it off entirely. Rolled some tie bands on it afterwards, may do yet to weld up scrap.
June 28th, 1841—Turning rolls this afternoon, George making bad iron.
July 21st, 1841—Clear and warm, George broke top finishing roll this morning and put cracked roll in and broke it in the afternoon.
Aug. 10th, 1841—Rolling sheet iron, can not get but 72 sheets made per day.
Aug. 15th, 1841—Talked to George Churnsides about trimming iron, says he can not trim and do all the turning himself.
Sept. 24th, 1841—Cloudy and rain, George Churnsides made 90 sheets every day this week.
March 24th, 1842—George broke top roughing roll, breaking down bars. George Churnsides left us this day.
April 23rd, 1842—G. Churnsides moved, bag and baggage today.
April 25th, 1842—Broke top roll this day.

Whether the roll breaking not ceasing when he left, had any bearing on developments, George Churnsides soon returned to work at the mill. He later went to Conshohocken and worked there for the Woods until his death in 1887.

A contract recently was made with the Pennsylvania-Ohio Electric system by the Youngstown Sheet & Tube Co. which stipulates that the former company shall supply a demand up to 20,000 kilowatts or about 27,000 horsepower. The power bills resulting from the use of the energy will average approximately $1,000,000 annually. The Sheet & Tube company will use this power for its plate, sheet and new tube mills and in other departments.



Iron ore shipments are arriving at Everett, Mass., in anticipation of the blowing in of the blast furnace there early in August

New England Buying Pig Iron Nearer Home

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Source Shifting, as New Furnaces Operate

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Less Tonnage Being Brought in From Abroad

By H. R. Simonds

INCREASING freight rates have wrought changes in industry throughout the country in the relation of source to market. New England in its relation to sources of raw material is one of the most isolated districts in the country. Although it is an important manufacturing district it produces a negligible amount of the material which it uses.

Ten to 15 years ago New England's pig iron came in about equal quantities from four producing districts, Birmingham, Virginia, eastern Pennsylvania and Buffalo. At that time the freight rates to New England from Birmingham to Boston, rail and water, was $4.25. The rail rate from Virginia was $3.25, from Buffalo $2.45, and from eastern Pennsylvania $1.90. Since that time the freight rates have gradually increased, and the tonnage of pig iron reaching New England from the different districts has been altered in approximate proportion to the change in the rates.

Pig Iron Freight Rates

From Boston and Everett, Mass., to:	
Worcester, Mass	$1.89
Springfield, Mass.	2.52
Pittsfield, Mass	2.65
Framingham, Mass.	1.89
Portland, Me.	2.39
Hartford, Conn.	2.90
Providence, R. I.	2.00
From Port Henry, N. Y., to:	
Boston	$3.15
Worcester, Mass.	3.15
Springfield, Mass.	3.00
Pittsfield, Mass.	3.00
Framingham, Mass.	3.15
Portland, Me.	3.65
Hartford, Conn.	3.65
Providence, R. I.	3.65
From Troy, N. Y., to:	
Boston	$2.90
Worcester, Mass.	2.65
Springfield, Mass.	2.39
Pittsfield, Mass.	2.39
Portland, Me.	3.65
Hartford, Conn.	3.65
Providence, R. I.	3.65
From Buffalo district to all principal points in New England	$4.91
From eastern Pennsylvania to all principal points in New England	$3.65
From Birmingham, rail and water to Boston	$6.91
From Virginia to all principal points in New England	$5.92

During the past year almost no Virginia iron entered the district, and the Birmingham iron that arrived was for mixture purposes. The three main sources of New England's supply during 1925 were eastern Pennsylvania, Buffalo and foreign countries.

A fair amount of iron was supplied by New York state furnaces outside the Buffalo district.

In 1914 the product of Virginia furnaces, about 17 in all, was more largely used in New England than iron from any other district. Prices and rail rates were such that the four districts, Virginia, eastern Pennsylvania, Buffalo and Alabama met on a competitive basis in the New England consuming territory.

By 1925 freight rates had nearly doubled. The $3.25 Virginia rate had become $5.92. The $1.90 eastern Pennsylvania rate had advanced to $3.65, and the Buffalo rate of $2.45 had moved up to $4.91. Due to

various difficulties in the Pennsylvania district, concerned principally with management and cost of production, relatively few furnaces in that state made a bid for New England's business during 1925. Dealers estimate that in all 60,000 tons entered New England during the year from eastern Pennsylvania furnaces, chief of which were those of the Bethlehem Steel Co., E. & G. Brooke Iron Co., Delaware River Steel Co., Thomas Iron Co., and the Allan Wood Iron & Steel Co.

If the Buffalo district is considered as including several western Pennsylvania furnaces having the same freight rate, it is probable that in 1925 this district furnished New England with 180,000 tons or three times the amount of pig iron shipped in by eastern Pennsylvania furnaces. The iron came principally from the Donner Steel Co., Hanna Furnace Co., Rogers, Brown Iron Co., Wickwire Spencer Steel Co., the Lackawanna furnace of Bethlehem Steel Co., Adrian Furnace Co., Perry Iron Co., and Punxsutawney Furnace Co.

From the standpoint of freight rate into New England, one or two New York furnaces, principally that of Witherbee, Sherman & Co. and one at Port Henry, cannot be classed with the Buffalo group. These furnaces supplied approximately 40,000 tons to New England foundries during 1925.

New Furnaces Are Built

Foreign iron receipts at New England ports and foreign iron received at other ports and shipped into New England totaled approximately 135,000 tons during the year. Shipments from the Birmingham district into New England largely for mixture purposes totaled about 20,000 tons and from Virginia came about 5000 tons. Miscellaneous other sources probably shipped 10,000 tons. This gives a total of 450,000 tons of pig iron from all sources entering New England during 1925. According to many authorities this figure is low.

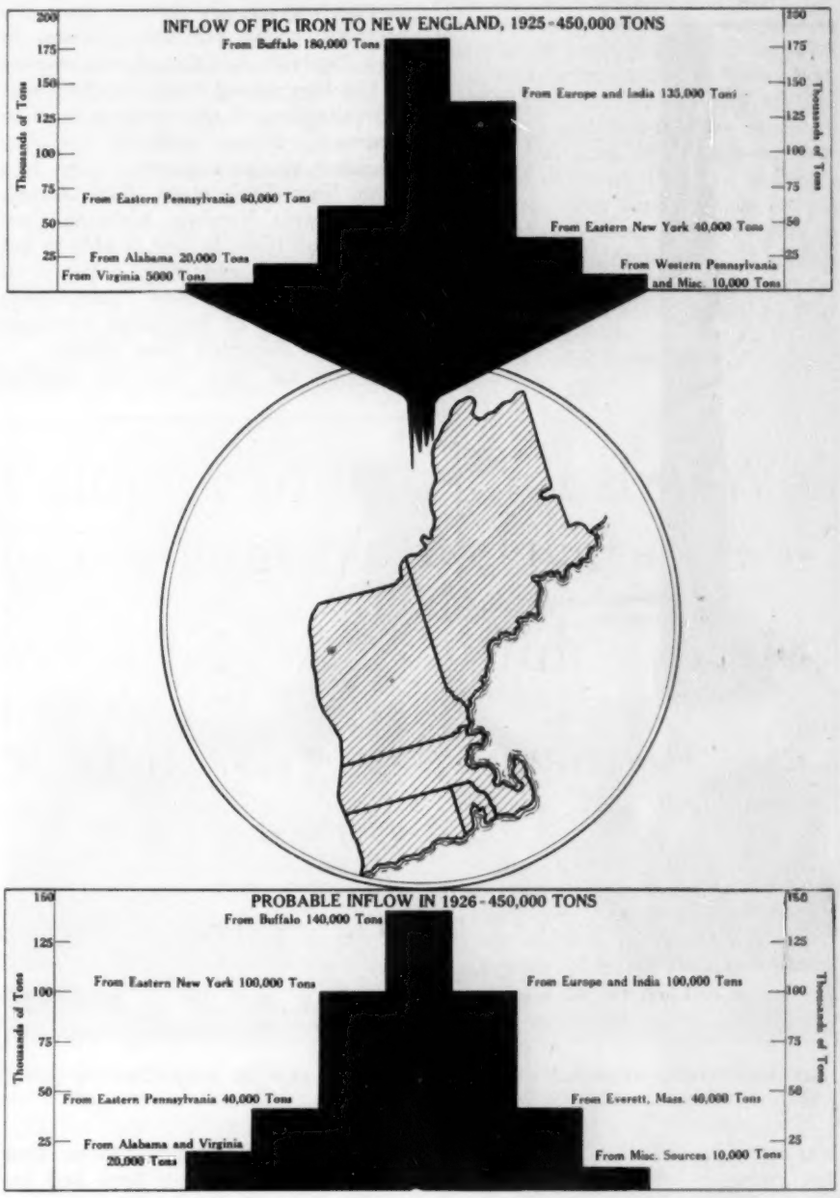
Previous estimates based on consumption of foundry coke and checked with reports from all important foundries have given the consumption of pig iron in the New England district as well over 600,000 tons a year. If the 1925 tonnage exceeded 450,000 tons it is probable the additional amount came largely from eastern Pennsylvania, as the totals given for the other districts are fairly well substantiated.

The year 1926 will see further radical changes in New England's sources of pig iron. The new furnace of the Hudson Valley Coke & Products Corp., located at Troy, N. Y., already is in blast. Another, that of the Mystic Iron Works at Everett, Mass., is 95 per cent complete, and it is expected will be blown in about the first of August. Each of these furnaces is rated at 500 tons a day, and they are intended to supply the New England trade.

The establishment of a blast furnace at Everett is of historical interest. It was at Saugus Center, a few miles from Everett, that the first blast furnace in America was established in 1645, to use the bog iron deposits of the Saugus river meadows. The furnace flourished for 40 years or more until it was closed due to depletion of forests required for charcoal which was the furnace fuel. Since that time New England has been without pig iron furnaces, except for two or three charcoal furnaces in the western part of the district. The last of these was forced to close during 1925 due to the scarcity of charcoal.

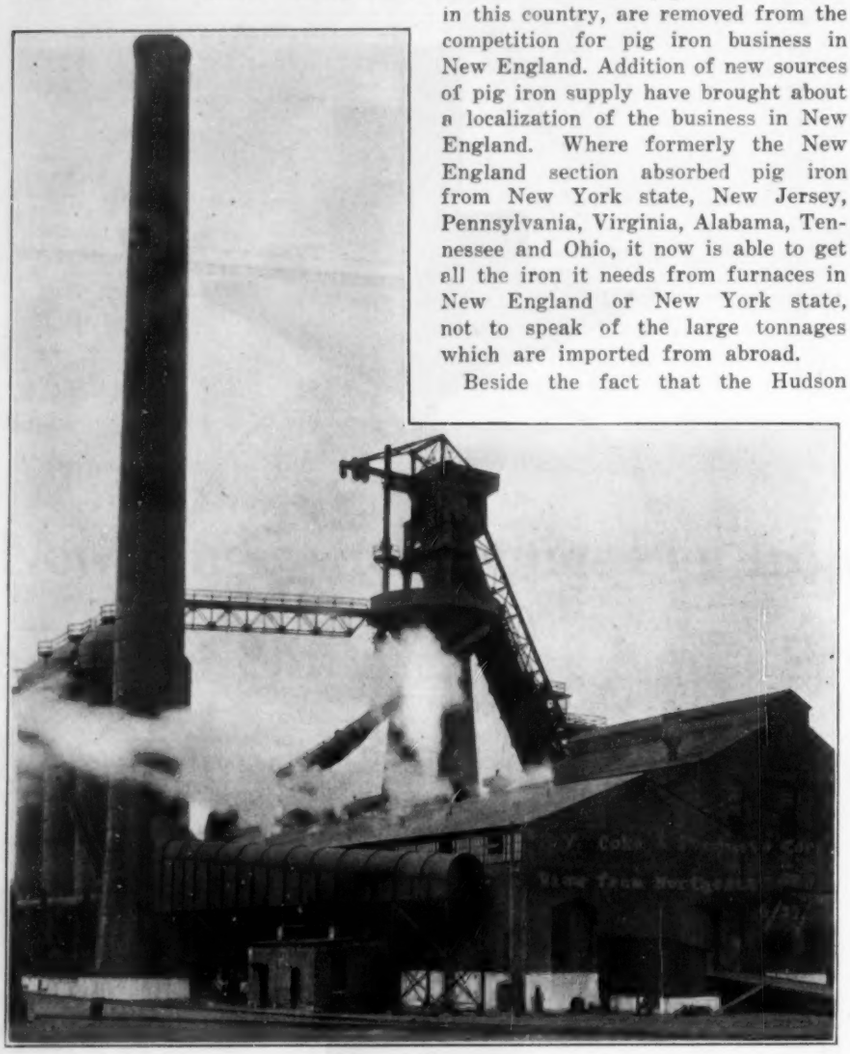
The new furnace at Troy is on the exact site of a former blast furnace built in 1906 by the Burden Iron Co. The plant consisted of three small hot stoves and an 80-foot stack with a rated capacity of 250 tons a day. In 1912 a new stove 90 feet high was added, and this stove now forms part of the equipment of the new blast furnace, which in addition uses three larger stoves of modern design.

The receipts of foreign iron in 1926 have so far closely paralleled the 1925 records. The total amount of


INFLOW OF PIG IRON TO NEW ENGLAND, 1925-450,000 TONS
From Buffalo 180,000 Tons
From Europe and India 135,000 Tons
From Eastern Pennsylvania 60,000 Tons
From Eastern New York 40,000 Tons
From Alabama 20,000 Tons
From Virginia 5000 Tons
From Western Pennsylvania and Misc. 10,000 Tons
Thousands of Tons
PROBABLE INFLOW IN 1926-450,000 TONS
From Buffalo 140,000 Tons
From Eastern New York 100,000 Tons
From Europe and India 100,000 Tons
From Eastern Pennsylvania 40,000 Tons
From Everett, Mass. 40,000 Tons
From Alabama and Virginia 20,000 Tons
From Misc. Sources 10,000 Tons
Thousands of Tons

A COMPARISON OF PIG IRON SHIPMENTS INTO NEW ENGLAND IN 1925 AND PROBABLE SOURCES OF SUPPLY IN 1926

pig iron imported at Boston up to June 1 was approximately 40,000 tons. The tonnage for 1926 is expected to be about 100,000 tons, or 35,000 tons less than in 1925. This is based on the assumption that the furnace at Everett will operate at close to capacity for three months, and will sell its product in the district. It is also assumed that the furnace at Troy will continue to operate through the year with the bulk of its production going to New England.



THE NEW BLAST FURNACE AT TROY, N. Y. WAS PUT IN OPERATION IN APRIL THIS YEAR

Because of the increasing use in foreign countries of iron and steel products manufactured in the United States, a series of industrial standards are being issued by the department of commerce, with text in English and a foreign language on facing pages. One has just been issued as No. 4 of this series, covering the specification for low carbon steel splice bars as adopted by the American Society for Testing Materials, in Spanish.

Competition Is Barring Eastern Pennsylvania Furnaces

By E. C. Kreutzberg

EASTERN Pennsylvania furnaces for the first time in the history of the merchant pig iron business in this country, are removed from the competition for pig iron business in New England. Addition of new sources of pig iron supply have brought about a localization of the business in New England. Where formerly the New England section absorbed pig iron from New York state, New Jersey, Pennsylvania, Virginia, Alabama, Tennessee and Ohio, it now is able to get all the iron it needs from furnaces in New England or New York state, not to speak of the large tonnages which are imported from abroad.

Beside the fact that the Hudson Valley Coke & Products Corp. blew in its new furnace at Troy and the Mystic Iron Works is completing its large furnace near Everett, Mass., the McKinney Steel Co. is going to blow in its Genessee furnace at Charlotte, N. Y., to liquidate a considerable stock of ore on hand there. All these furnaces, in addition to the stacks at Port Henry and at Buffalo, are competing for business in New England. Large quantities of Dutch and Indian iron have been selling there. In addition, the treasury department's recent decision temporarily to abandon the countervailing duty, enables German iron again to be offered freely.

In view of this situation, eastern Pennsylvania no longer is a contender for pig iron business in New England. This fact became apparent when the Mystic Iron Works started to solicit pig iron business at $21, base furnace. This price, for instance, figures out to $22.89 delivered at Westfield, Mass., where important consumers such as the H. B. Smith Co. are located. This delivered price figures back to $17.98 base Buffalo and $19.24, base, eastern Pennsylvania furnace.

Eastern Pennsylvania furnaces say they cannot afford to compete in that kind of a market. They not only would have to take something like the foregoing price on sales to New England, but they would have to allow substantially the same price to their customers in the New York and Philadelphia districts. They now are obtaining $21.50, base, furnace, subject to the usual freight equalization, on most of their business.

This process of localizing the New England market undoubtedly will have some effect on the great stream of pig iron that for many years has been flowing from Buffalo to New England. Buffalo makers do not relish competition which forces them to sell around $18 or less at their furnaces.

"New England now is the best place in the country for operating a foundry," says one of the eastern Pennsylvania ironmasters. "On all sides are furnaces which need a large amount of tonnage to keep going. If that is not enough, there are large tonnages to be had from abroad. There is no better labor anywhere than you find in New England. There is an immense supply of coke there. With the cost of pig iron as low as it is at present, the foundry industry of New England should enjoy greater prosperity than ever before."

Fellowships Available

A number of research fellowships in metallurgy are available at the University of Wisconsin, beginning September. The fellows are to carry on metallurgical research in iron and steel and will have the opportunity to obtain a master's or doctor's degree. Each fellowship will carry an annual payment of $1200. Candidates

should hold at least a bachelor's degree and should have a good reading knowledge of French and German. Complete information concerning the fellowships can be obtained from E. R. Shorey, assistant professor of mining and metallurgy, college of mechanics and engineering, University of Wisconsin, Madison, Wis.

Studies Blast Furnace Combustion Zone

A study of the combusion zone of an iron blast furnace conducted by the bureau of mines and including a series of gas samples taken through the tuyeres across the hearths of 13 blast furnaces, showed that the combustion of the coke in the blast-furnace hearth is complete at a distance of 32 to 40 inches from the nose of the tuyere, measured horizontally toward the center of the furnace. To determine the height at which oxygen is found in a vertical direction above the tuyeres and to obtain comparisons with the samples taken at the bureau of mines experimental 5-ton blast furnace at Minneapolis, the bureau extended the gas sampling on a commercial furnace to a number of planes between the tuyere level and the stock line. The sampling was conducted on a 300-ton furnace, making foundry iron, operated by the Central Iron & Coal Co., Holt, Ala. The furnace was smelting Southern red and brown ores and nodules from pyrite sinter. This investigation proves the following:

The oxygen of the blast has been consumed, in the process of combustion, at a point 27 inches above the center line of the tuyeres, and the penetration of the combustion zone in the vertical direction is equivalent to that in a horizontal direction at the tuyere level.

The composition of the gas across a plane 20 feet above the tuyere level is constant. The excess oxygen therein is due to reduction taking in the bosh.

As the composition of the gas at the plane 20 feet above the tuyere level is constant, abnormal gas composition shown in the center of the hearth near the tuyere level is a local condition. This is due to a combination of three factors, these being, in order of importance: restricted circulation of gases in the center of the hearth area; so-called direct reduction; and formation of cyanides.

The uniformity of gas composition at the plane 20 feet above tuyere level does not indicate uniformity of flow.

Analyses of samples at planes approximately 41, 53, and 63 feet above the tuyere level show unequal gas composition across the planes. This is due to the effect of four factors; a difference in porosity in the stock column; segregation of iron oxides in the outer part of the column; unequal stock flow; and unequal gas flow.

The results indicate that better practice with lower coke consumption might be obtained if operation could be so maintained that the gas composition on any plane higher than that 20 feet above the tuyere level would be uniform in carbon dioxide content, and also so maintained that the carbon dioxide content of the gases would increase with distance from the hearth level. This condition will exist if the materials are so arranged in the stack that the composition of the charge is uniform throughout the column. It then follows that the flow of gas and stock in the column must be maintained uniformly.

Results of this investigation are given in Serial 2747, "Study of the Reactions in an Iron Blast Furnace," by S. P. Kinney, P. H. Royster and T. L. Joseph, copies of which may be obtained from the bureau of mines, department of commerce, Washington.

Magnesium Output Gains

Sales of magnesium in the United States in 1925 were 245,000 pounds, valued at $274,400, compared with sales of 128,000 pounds valued at $150,000 in 1924, according to statistics compiled by James M. Hill, of the bureau of mines, department of commerce. Two companies manufacture magnesium in the United States, and both increased output in 1925.

Over 81 per cent of the magnesium was sold in ingot form, but the sales of alloys and castings more than doubled those of 1924. Sales of tubing were about one-fifth as much as in 1924, but sales of sheet were over one hundred times those in the previous year. The average price of domestic ingot metal was 86 cents a pound, that of powder $1.63 a pound, and of castings $3 a pound.

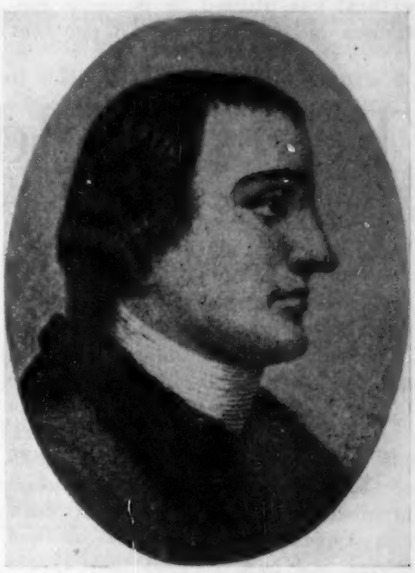
Imports of magnesium metal in 1925 were 8326 pounds, valued at $7070, compared with 8738 pounds, valued at $6561 in 1924.

Founder of Iron Industry Was Signer of Declaration

By Cassie Moncure Lyne,
United States Department of Commerce

SO MUCH emphasis is placed on Thomas Jefferson in connection with the authorship of the Declaration of Independence, that one fails to recall the roster of those other great influences in the founding of the Republic, who in the language of Chatam have never been surpassed for their sagacity as a caucus. Among those who left an indelible impression on the growth of America's prosperity, was George Taylor, the iron monger, who is most representative of all the signers in exemplifying the inalienable right of every man to make the most of his life.

Taylor came to Philadelphia as a redemptioner, from Ireland, but being well educated, he soon rose from servitude and became the founder of the iron industry in America. He, like Washington and Jefferson, married a rich widow in Northampton county on the Lehigh river, and in Easton, Pa. left his impress on the future iron industry of the country. Taylor was not present on July 4 when the declaration was ratified; but he signed it on July 20, 1776. The engrossed copy was not ready for the signatures until in August. George Taylor, the penniless emigrant from Ireland, stands as the patron of the iron and steel industry, as well as signer of the Declaration of Independence.



GEORGE TAYLOR

Simplified practice recommendation bulletin No. 36, covering the subject of "Milling Cutters," has been issued by the bureau of standards, Washington. This bulletin gives simplified

sizes, styles and types of milling cutters as accepted at the general conference for representatives of the industry held in Washington last March. Copies may be obtained from the government printing office, Washington.

Natural Gas Consumption Makes New Record

Another record in the consumption of natural gas was made in the United States in 1924, according to a report by the bureau of mines. The amount was 1,141,482,000,000 cubic feet, with an estimated value of $105,779,000 at the wells, and $253,830,000 at points of consumption. This is an increase of 13 per cent in consumption over 1923, and almost double that of 1914.

Increased production, as measured by deliveries to consumers, is recorded for most of the states and in California, Louisiana, and Texas the gains range between 33,000,000,000 and 58,000,000,000 cubic feet. A smaller output than in 1923 is reported from West Virginia, Pennsylvania, Ohio and Montana.

The ratio of the domestic to the total consumption of natural gas continued to decrease and in 1924 only 25 per cent of the total quantity was used for domestic purposes. Nevertheless, the total quantity of natural gas utilized by domestic consumers in 1924 increased 3 per cent and the number of domestic consumers in 1924 increased 29,600 to the record of 3,443,400.

The quantity of natural gas reported as treated for recovery of natural-gas gasoline in 1924 was 1,016,276,000,000 cubic feet. This is equivalent to 89 per cent of the total consumption of natural gas in the United States and contrasts with 87 per cent in 1923, 71 per cent in 1922, and 62 per cent in 1920. The growth not only shows increasing conservation of natural gas but indicates the near approach of the time when the available annual supply of gas, which until 1923 had been greatly in excess of the quantity treated for the recovery of gasoline, will be a controlling factor in the growth of the natural-gas gasoline industry.

Describes Safe Handling of Powdered Coal

An investigation of various phases of explosion hazards from the use of pulverized coal as a fuel at industrial plants has been made by the bureau of mines.

Pulverized coal is being introduced in the steel industry as a fuel for sheet furnaces, billet furnaces, and small forge furnaces; in cement mills for burning clinker; in large power plants for generating steam in the boilers; and in the large smelters, mostly reverberatory plants, in the West for the reduction of copper ore.

To reduce the explosion hazard, the bureau states, there should be absolute cleanliness and freedom from any accumulations of dust, both in the pulverizing plant and in the buildings in which the pulverized coal is used as fuel. Accumulations of dust on the floor or machinery should never be brushed or swept up without either the dust being wetted or thoroughly mixed with an excess mixture of fine incombustible material.

The drier and drier furnace should be separated by a fireproof partition from the pulverizing mills, conveying machinery and storage bins. Where furnaces and boilers are equipped with individual fuel bins, these bins, if possible, should be isolated from the boilers or furnaces. All pulverized-coal bins should be tightly closed, and never opened if there is any possibility of ignition from an open flame. Bins should be equipped with automatic indicators to indicate the amount of coal in the bin.

Especial care should be taken not to overheat the coal in the drier, and recording pyrometers should be installed to enable the officials of the plant to check the operation of the drier. The operation of the drier should never be stopped while it contains a charge of coal. Fire in the drier furnace should never be started with paper, shavings, or any light combustible material. Further details are given in Bulletin 242.

Tests Welded Trusses to Failure

AS THE culmination of a year's intensive study of the proper application of oxyacetylene welding to the fabrication of steel structures, a series of four roof trusses recently was tested to destruction at the engineering laboratory of the Linde Air Products Co., Buffalo. As a first step, studies were made of various types of joints in different kinds of steel shapes. A few of the most promising schemes were then built into typical truss intersections and proper jigs built to load these joints to destruction. Unit stresses for weld metal in tension, compression and shear were determined by this means. The variety of joint known as the "plate insert joint" was shown to have marked advantages.

Next a 40-foot roof truss was designed and built of conventional angle-iron sections, using the information gained by this preliminary work. In testing, elaborate framework was necessary to give the upper chord of the truss the lateral support it would receive when placed in a building. Platforms were hung from each panel point and loaded with pig iron.

At definite increments of load, the stresses in each member were measured by an extensometer. At double the design load, each welded joint was vigorously pounded with a hammer. At three and one-half times the design load, the truss failed by buckling in the upper chord; no distress at any welded joint was in evidence. At the time of failure the truss designed for 21,000 pounds load was carrying 75,000 pounds.

After this demonstration of soundness in the underlying methods, four trusses were prepared for comparative test. One was designed and built by a leading structural shop; another was welded by the Linde company, using members of the same size from the same mill rolling; the third was designed to have the same strength as the riveted truss, but since the oxyacetylene welded joint allows a better placement of the metal, it was materially lighter in weight. A fourth truss was fabricated by welding tubular sections.

A summary of the results follows.

Style	Weight, pounds	Total load at failure, pounds
Rivested truss	1,161	62,000
Welded truss of equal weight	1,150	72,000
Welded truss of lighter weight	1,079	70,000
Welded truss of tubular sections	916	63,000

All trusses failed by buckling of the top chord, a compression member. In no instances were there any signs of distress at a joint. These tests were made under observation of engineers of the Pittsburgh Testing Laboratory, and in the presence of several independent observers and representatives of governmental departments as well as by welding engineers.

Editorials

Great Activity in Machine Tools

THE first half year in the machine tool industry wound up with exceptional activity. Normally a slow month, June exceeded all expectations. One of the country's largest builders reported it the best month since January, and another the best since the war. While the first half was probably not the most active since the war, it undoubtedly was better than the corresponding period of last year, and was sufficiently good to insure a record-breaking year, should business in the last half fulfill some builders' expectations.

While one feature of the past month's business was the diversity of demand, another was the sustained improvement in railroad buying. Normally, railroad buying averages around 25 per cent of the country's total machine tool business, with the automotive industry taking 35 to 40 per cent and miscellaneous users the remainder. Estimates indicate that of the 65 per cent of the output absorbed by the railroads and automotive industry, the railroads took almost half. Transportation systems of the country, unmolested by governmental interferences have through efficiency in management and operation become financially able to rehabilitate their rolling stock in an extensive way. The first step is the modernizing of machine shops.

This improvement in railroad buying has been particularly encouraging as the great bulk of the requirements are standard tools. The group of equipment commonly referred to as special railroad machinery represents a relatively small percentage of the total equipment purchased by the carriers. With anything like a sustained automotive and general industrial buying and with a continued increase in railroad business—and the trade has not regarded the railroad outlook as better in years—this year should at least approach 1923, the best since the war, if not surpass it.

Will Coal Facts Bring Trouble?

DISCUSSING coal legislation proposed at the current session of congress, Harry L. Gandy, secretary of the National Coal association, said at the association's recent convention in Chicago:

"England has had fact-finding about bituminous coal for many years. Governmental agencies have there dabbled in wage conferences. The record here and in England justifies the statement that the advance recognition of an industrial emergency will bring the emergency. The setting up of a body political to which either side of an industrial controversy may appeal will make practically certain that employers and employes cannot agree."

This observation should provoke considerable discussion. On the point that anticipation insures realization a position pro or con can be maintained. The person contending that crime is stimulated by the wide publicity given it would not be likely to advocate the abolition of police departments. It can be proved with equal facility that war has been provoked both by the presence and by the absence of standing armies. Considering fact-finding in an abstract manner, nothing would be more disturbing to the steel industry than to have congress assume that something was wrong with it and set up a commission to rummage about.

However, the conditions surrounding the coal industry are so peculiar to the industry that generalizations are questionable. More than any other industry, coal is charged with a public interest; it is the key to most industrial processes. All of the anthracite and a large portion of the bituminous coal industries have been saddled with unionism and a labor hierarchy that are a constant threat to the peace of the industry. The prospect of stoppage recurs so frequently that the nation is thoroughly convinced of the necessity for self-protection.

The fact that regulatory legislation concerning no other industry than coal has been considered at this session of congress is eloquent. Individually the producers of other commodities can sympathize with the producers of coal, but considering coal as the basis of practically all industrial operations and recollecting the periodic disturbance it brings, the feeling of apprehension is understandable.

British Coal and Steel Profits Small

AS THE strike of the British coal miners continues in its third month, and operations in the iron and steel industry practically stopped as a consequence, it may be of interest to know what the profits of the coal, iron and steel industries as a group were in 1925. On the authority of the British *Times Trade and Engineering Supplement* it is stated that the profit

was 2 per cent on invested capital, the lowest point reached since the war, and compared with 12.5 per cent in 1920. The profit in 1921 was 6.6 per cent; in 1922 it dropped to 3.2 per cent; rallied to 5.9 per cent in 1923 and continued at about that rate, 5.3 per cent, in 1924.

The 2 per cent profit in 1925 was by far the lowest of any in Britain's basic industries. The engineering works averaged 5.4 per cent, motor industry 8.4 per cent, cycle industry 16.6 per cent. Railways obtained only 3.5 per cent profit, while other shipping averaged 12.4 per cent. In the retail stores trade, profits were 9.4 per cent to 10.2 per cent.

Profits from the rubber plantations were 20.5 per cent in 1925; from tobacco 20.5 per cent, from brewing 15.3 per cent, and from oils and petroleum 15.3 per cent.

The dire results of the British labor discord have fallen most heavily on industries least able to bear them. With the government subsidy sustaining coal production, and thereby indirectly aiding iron and steel, the revenue producers of the group, the average profit was pitifully small. One industry has brought idleness to another, this is an important element in the strike evil that doubtless will tend to cure it.

Did Pittsburgh Plus Do It?

COMING fall it will be two years since the federal trade commission promulgated its edict against Pittsburgh plus. Sheets and wire were the commodities at which this edict especially was aimed. In the 22 months that have elapsed, plates, shapes, bars and other finished products not affected have experienced fairly tranquil markets, but sheets and wire—sheets particularly—have been tempestuous. Is it effect or coincidence?

Producers at Chicago say the latter. They point to destructive forces at work within the sheet and wire industries untouched by any methods of pricing.

Primarily the opponents of Pittsburgh plus sought cheaper prices, and in this they have been successful. Sheets and wire, especially the latter, are both actually and relatively lower at this time at Chicago than at Pittsburgh. Two years ago plain wire at Pittsburgh was 2.65c and today it is 2.50c; the recession at Chicago in the same period has been from 2.99c to 2.55c. Similarly black sheets have dropped at Pittsburgh from 3.75c to a range of 3.00c to 3.15c, while at Chicago they have gone off from 4.09c to 3.35c.

Originally it was contemplated western mill sheet and wire prices would be the equivalent of 10 cents over Pittsburgh, with an additional 5 cents for Chicago delivery. Wire prices have lost ground to the extent that both western mill and Chicago delivery prices are now only 5 cents over Pittsburgh. The sheet differential, on the contrary, has expanded. Between the Pittsburgh base and Chicago delivered prices on black sheets the spread now is 20 to 35 cents, on galvanized 15 to 35 cents and on blue annealed from 15 to 25 cents. The spread prior to the federal trade commission's edict was 34 cents.

Whether it be effect or coincidence, certainly the outstanding market disturbances in the Middle West have occurred in those products chiefly affected by the trade commission decision and market observers will find considerable interest in future developments.

What Our Readers Are Thinking

Unionized Building Industry a Menace

IN MY judgment, the chief menace to the open shop lies in the building industry. The procedure there is for the union, through a system of co-ordinated offense and defense among the unions in the building trades group, to secure control of the trade. It then uses its control of the work on the building to insist that no materials shall be used except those coming from union shops, yards, mills, etc. In closed shop communities this has proceeded until little if any open shop material is used in the great bulk of the trades. This method is also being extended to all sorts of equipment, accessories, etc., that need to be installed in buildings, such as vaults, special machinery, elevators, and so the closed shop on the building becomes a hub from which the spokes extend into general manufacturing industry.

I have tried for years to induce the large general contractors operating on a nation-wide basis to organize for the purpose of maintaining their right to go into any community and work in accordance with the labor conditions existing in that community; in other words, to work open shop in open shop communities, and closed shop in closed shop communities, and to support one another in fighting the sympathetic strike whenever it is used to deny this right. I have been unable to get any such move started, although many general contractors admit the evils. They would welcome such a condition, but cannot be induced to take the initiative.

Here, then, seems the logical field for any new effort to put industrial conditions on a better basis. It is not necessary to question the right of the individual employer to use union men exclusively or to start any crusade against the closed shop as such. If the sympathetic strike, admittedly unlawful and antisocial, can be eradicated and if the right of each trade and each community to conduct their affairs without interference and coercion emanating from other trades or other communities, which right is not open to question, can be made effective, the chief evils of the building industry and its menace to other industries will automatically disappear.—WALTER DREW, *counsel for National Erectors association, New York, in address at recent American plan open shop conference in Detroit.*

The Reader's Page

Vol. LXXIX, No. 2 IRON TRADE REVIEW July 8, 1926

Why Confidence Continues in the Steel Industry

IN JANUARY this year the American Iron and Steel institute reported after making a survey that the practical steel ingot capacity in the United States is 50,000,000 gross tons, and the theoretical or "emergency" capacity is 56,000,000 tons. Readers who need a little more courage in the steel situation had better recall that official statement, and then reflect on the record of actual steel ingot output in the first six months of 1926. The production is estimated at 24,450,000 tons, about 2 per cent less than "the practical steel ingot capacity" for such a period. It was 12.7 per cent less than the full theoretical capacity for six months. Actual pig iron output was within 2,680,000 tons of the practical capacity of 22,500,000 tons for six months, and 5,430,000 tons of the maximum 25,250,000 tons. This shows the high activity of the industry.

Making High-Grade Strip Steel. Page 71.

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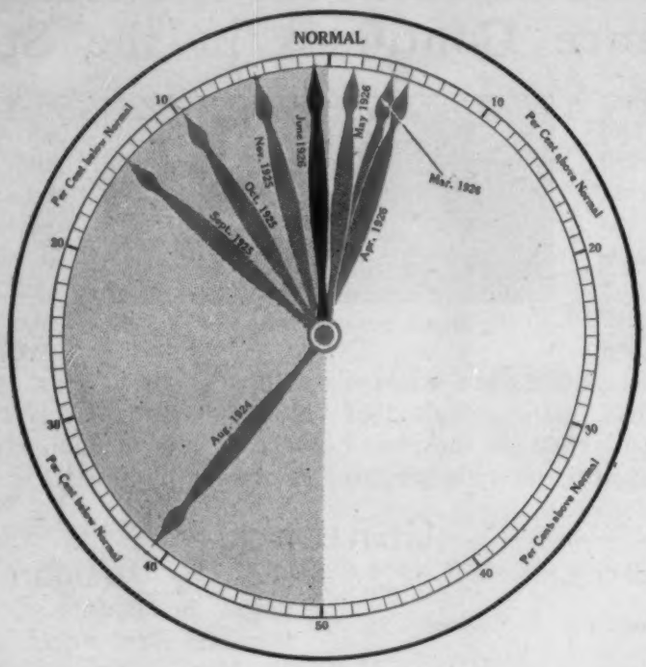
The Business Trend

Blast Furnace

The Dial represents the Blast Furnace Index of Business which is based upon a 40-year record of furnace activity. It is a barometer of general trade.



Business Dial

When 60 per cent of all the country's furnaces are in blast business conditions are normal. The Index is now lower than the normal point on the dial.

Blast Furnace Index Slightly Below Normal

By JOHN W. HILL, Financial Editor

FOR THE first time since February the blast furnace business dial swung back below normal in June. With the loss of eight furnaces from the active list during the month, the percentage of furnace activity dropped to 59.4 per cent. This compared with a theoretical normal of 60 per cent. Consequently the number of furnaces in blast at the end of June was 1 per cent below normal.

IN MAY 60.9 per cent of the furnaces were in blast, in April, 63 per cent of them were active, and in March, 62.4 per cent of them were active. The level of furnace activity was higher during the first half of this year than during any other first half since 1923. Compared with June 1925, furnace activity last month showed an increase of 24 per cent and compared with June, 1924 it shows an increase of 49 per cent.

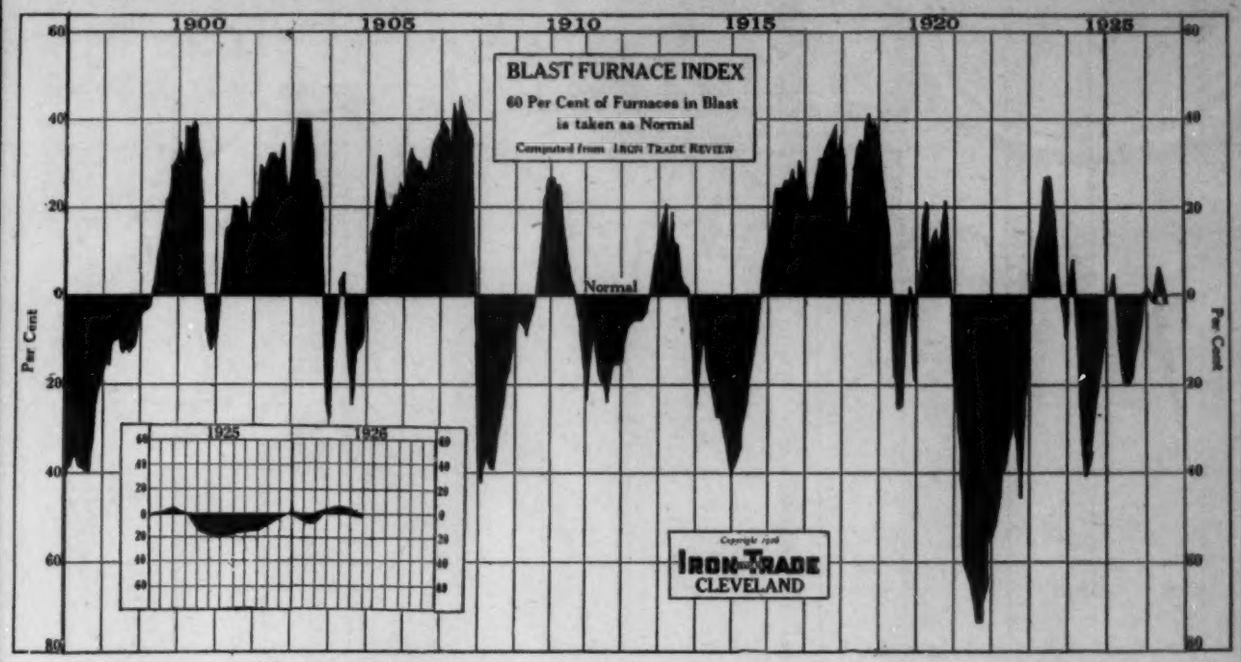
THE blast furnace index has attracted wide attention, not only because of its repute as a mirror of general industrial conditions, but also because of its wide acceptance as a barometer of stock market movements. At present the index accurately reflects a continued high level of trade and industry with a mildly declining tendency with the approach of summer.

THE stock market also has turned strong, in accordance with the signal of the blast furnace index when it crossed the normal line going down. The impressive forward move of the stock market is one of the outstanding phenomena of the present situation. The impetus comes from the ease of credit. The deepest significance of the advance of stocks lies in the obvious passing of fears of a severe and drastic slump of business.

THE most spectacular advances have been indulged by iron and steel company stocks, led by United States Steel common, now at new levels for all time. There are two reasons for this movement. One is the distinct betterment of trade sentiment in steel, the great buying movement of pig iron, and the upward turn of IRON TRADE REVIEW'S composite market average. Another reason is the rumored possibility of a melon-cutting.

NEXT to the steady stand of business, and the vigor of the stock market, the most important recent development has been the extreme weakness of the French franc. The French financial problem is of gigantic proportions. Its solution is complicated by political antagonisms, but acceptance of the rigorous policies of Caillaux is expected to bring improvement.

The Business Trend

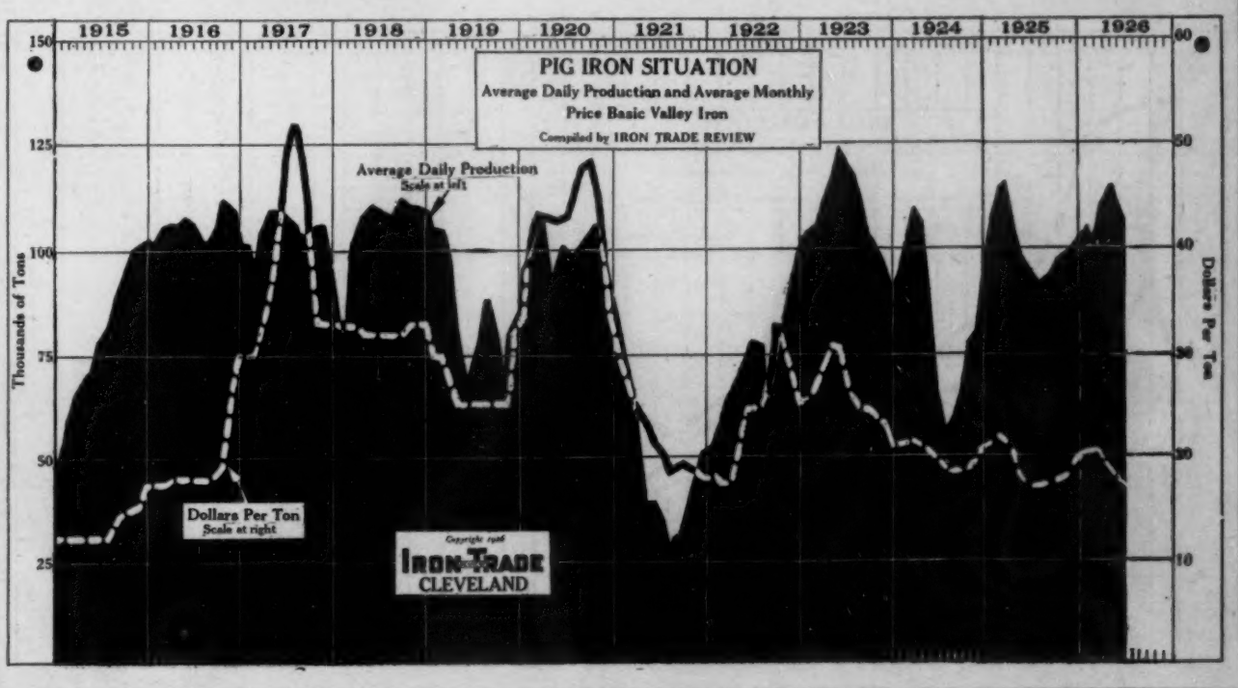


Blast Furnace Index

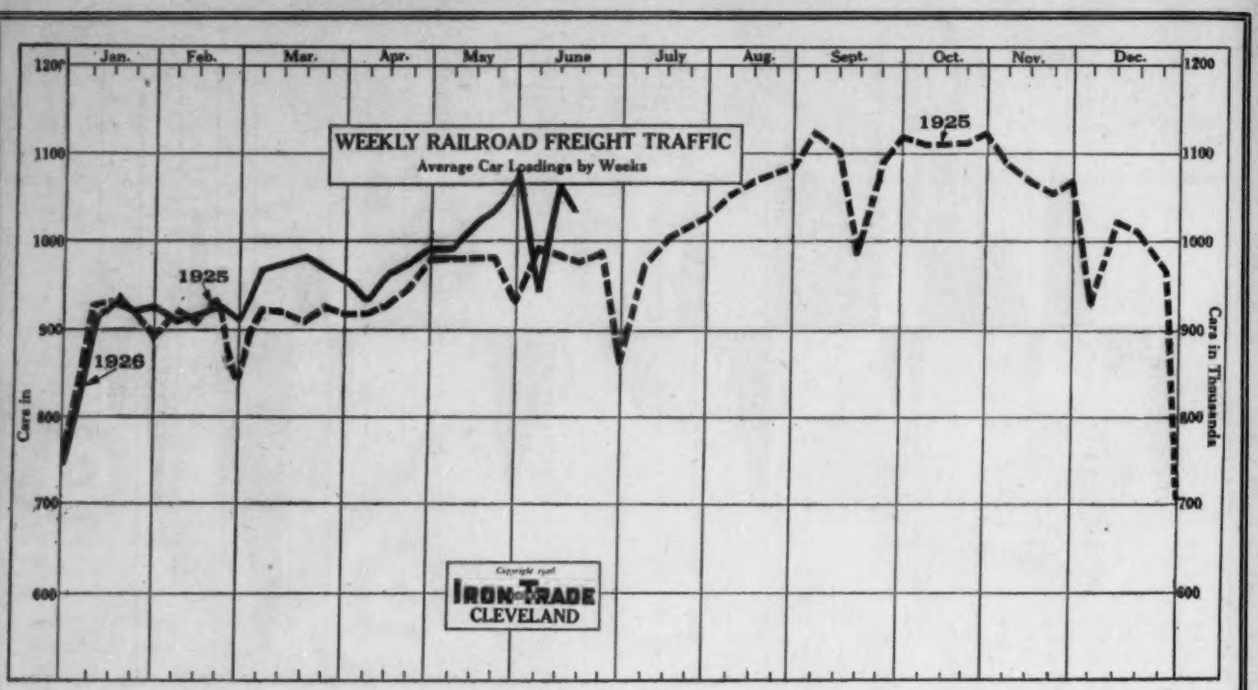
JUNE brought a decline of eight in the number of blast furnaces in operation. At the close of the month 221 furnaces were in blast out of a total list of 372 in the country. This was 59.4 per cent of the full number compared with 60.9 per cent one month ago and 47.9 per cent in June 1925. At the peak of the year in April the index stood at 63 per cent. Since 60 per cent is normal, the index declined to 1 per cent below normal in June. For the season this represents a high level of activities.

Pig Iron Situation

PRODUCTION of pig iron during the first six months of 1926 amounted to 19,819,459 tons. This was the highest record since the first half of 1923 and it was 4.4 per cent greater than the first six months of 1925. The production of pig iron in June was at the daily average rate of 106,700 tons. This compares with 112,187 tons in May and with 89,301 tons in June, 1925. The decline from the daily rate in May was 5.3 per cent while compared with June, 1925 there was an increase of 25 per cent.



The Business Trend

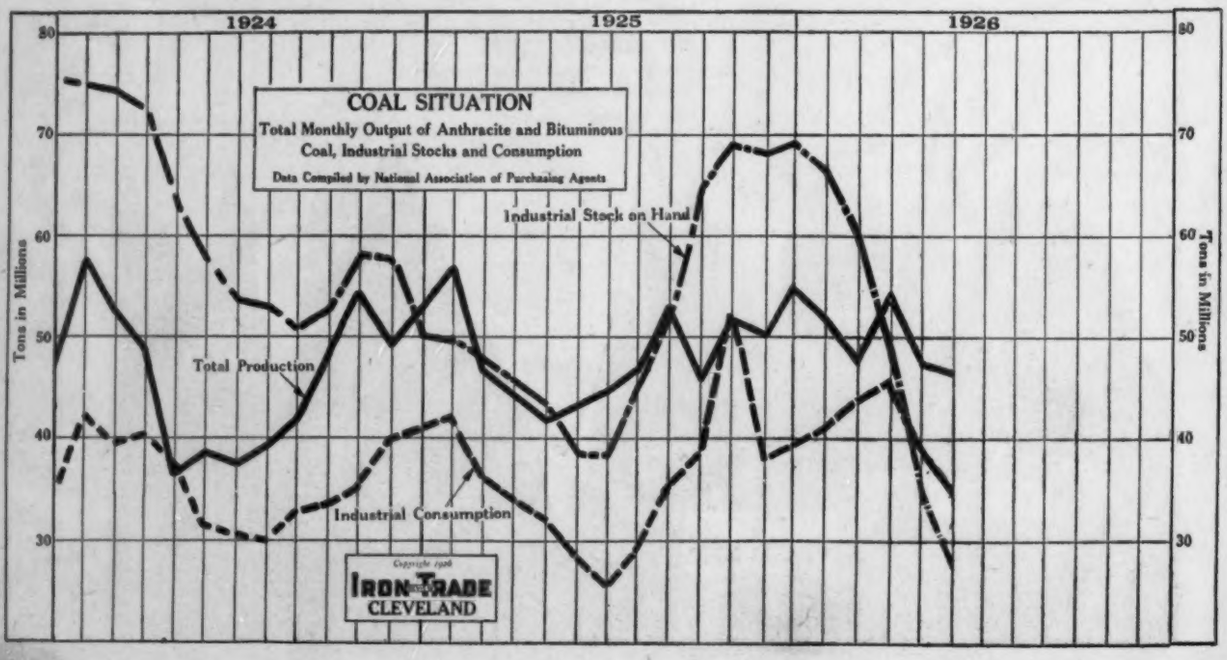


Freight Movements

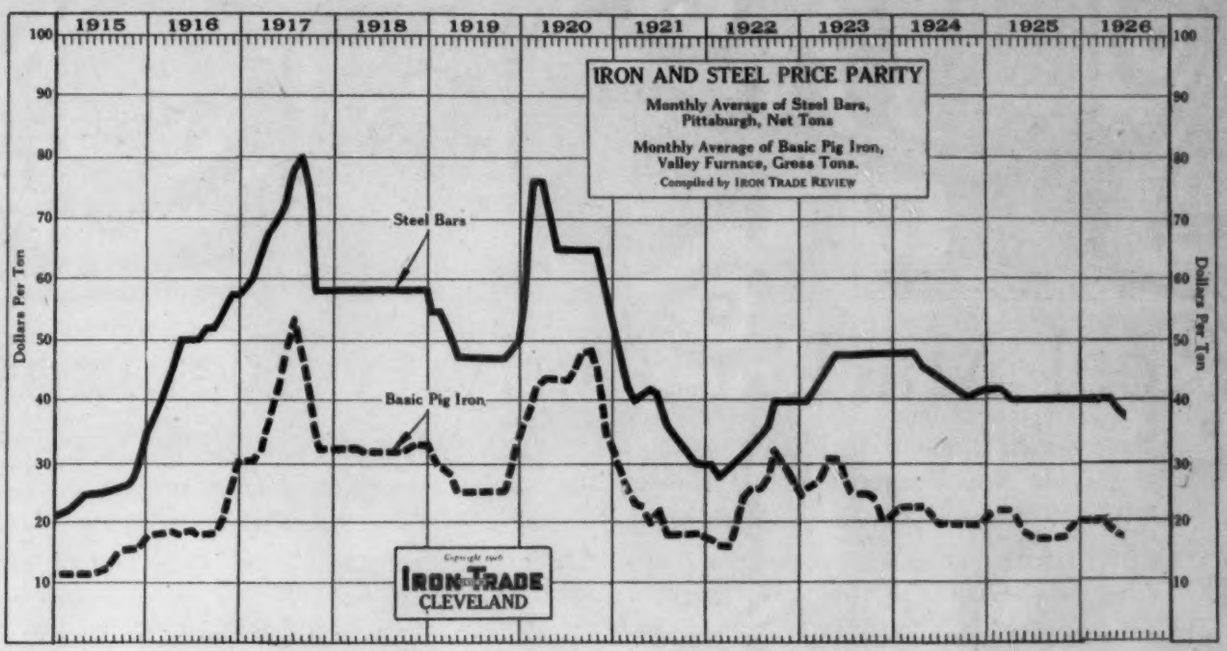
CAR loadings of revenue freight continue at unprecedented levels. For the week ending June 17 they totaled 1,043,720 cars which compared with 1,060,000 cars in the preceding week and with 995,000 cars in the corresponding week one year ago. Since the first of the year, 24,000,000 cars have been loaded which is an increase of 2.5 per cent over the total for the corresponding period of 1925 and 7.3 per cent over 1924. Heavy car loadings reflect the huge volume of goods that have been distributed.

Coal Situation

ACCORDING to the National Association of Purchasing Agents, stocks of coal in hands in industries are receding. In June these stocks amounted to 28,196,000 tons compared with 36,876,000 tons in May and with 68,399,000 tons at the peak of the year in January. Industrial consumption during May, according to this computation declined to 35,213,000 tons of bituminous and anthracite coal compared with 39,048,000 tons the month before. Production of all coal stood at 47,113,000 tons.



The Business Trend

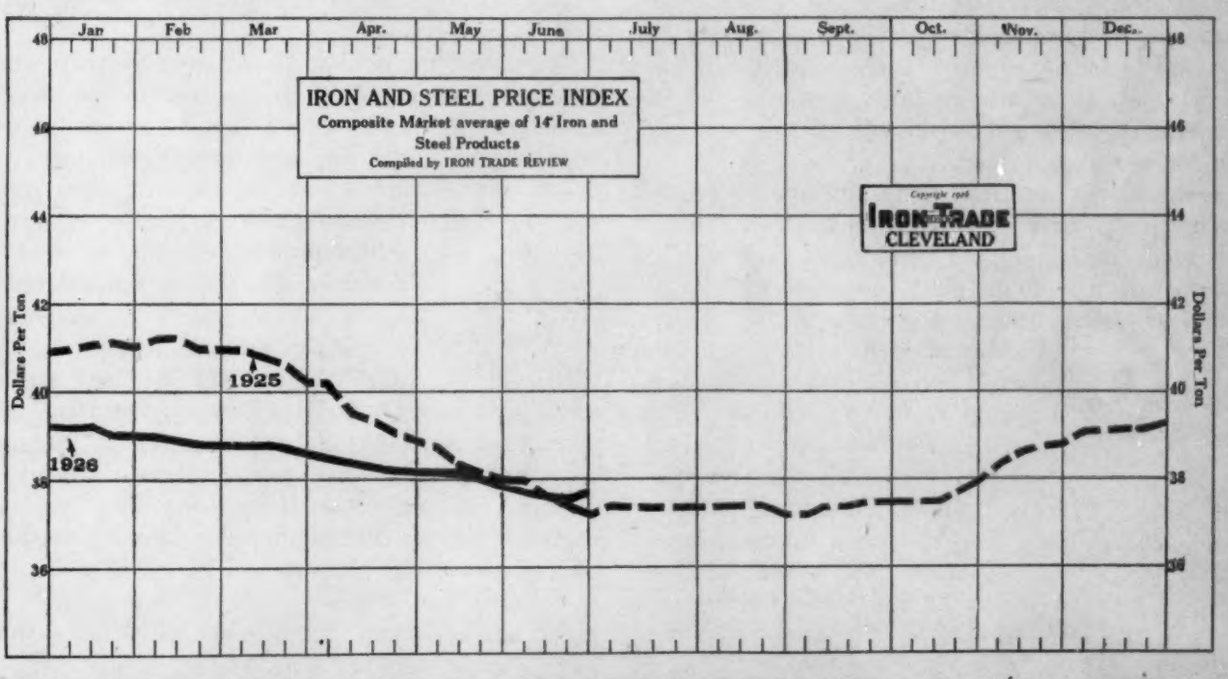


Steel Price Parity

THE increase in price of steel bars which is now accepted as the market level in the trade was not in practical effect during June. The average for the month was $38 a ton compared with $39 in May and with a steady level of $40 a ton over many months preceding. The recent increase of price has restored steel bars to the former level of $40. June also saw a further sinking of basic pig iron prices to $17.50 a ton compared with $18.25 the average for May and $20 a ton for March 1926.

Steel Price Index

THE composite market average of 14 leading iron and steel products, computed by IRON TRADE REVIEW, has turned upward for the first time in 14 weeks. The index at the close of June stood at $37.74 a ton compared with $37.58 a ton in the preceding week. The increase reflects the establishment of the slightly higher level of prices for some products. For the first time this year the iron and steel price index is now distinctly higher than it was one year before.



Steel Market Activity Relaxes

Pace Slows Down With Holiday, Following Heavy Inflow of Tonnage—Pig Iron Buying Now Totals 1,450,000 Tons—Mills Await Specifications To Establish Price Advances—Freighters Take 15,000 Tons of Plates

FOLLOWING the stimulated buying activity in June, new business in steel since the turn of the half year is showing a normal relaxation to which the holiday of the Fourth has contributed its quieting influence. In the week prior to July 1, however, the market witnessed a continuation of the heavy flow of incoming tonnage which was due in large part to buyers availing themselves of outstanding quotations rendered more attractive by the recent course of events. With some producers this tonnage of the last week was the largest for any similar period in months. Practically all these open options now have been driven in.

The situation at present is that the mills find themselves in possession of better volume of orders for shipment over the next 30 to 60 days in addition to a considerable amount of provisional tonnage on a higher level of prices, which to become liquid must be specified against during the next 30 to 60 days. How these contracts will be drawn out, therefore, in large measure will determine the firm establishment of the price advances recently quoted.

Steelworks operations generally are lower, following the Fourth of July holiday. Valley works are operating at 60 per cent, compared with 73 are operating at 60 per cent, compared with 73 per cent last week. Chicago continues at 90 per cent.

Pig Iron Still Active

Additional orders for pig iron placed during the week total approximately 290,000 tons. Furnace interests with headquarters in Cleveland booked 120,000 tons; Chicago sellers closed on 100,000 tons; Philadelphia reports sales amounting to 60,000 tons, including some good orders of basic iron. With five weeks of the buying movement elapsed, the total booked by furnace interests is between 1,450,000 and 1,500,000 tons. Cleveland interests account for 670,000 tons, and Chicago furnaces, 300,000 tons. There are evidences that the movement has not fully run its course, as more inquiries for fourth quarter have developed.

Prices Hold Steady

Advent of the third quarter finds finished steel prices considerably better stabilized than in the past three months. Although protections still are out in some quarters on lower priced tonnage, bars and shapes are firmer at 2.00c Pittsburgh and plates at 1.90c for third quarter business. The sheet situation continues spotty, improvement being counteracted by weakness. Chicago sellers have marked down sheets from $1 to $4 a ton. Bids on third quarter requirements of the Pennsylvania and New York Central railroads for nails, establishes the firmness of the prevailing quotations, leading makers bidding 2.65c for carloads and 2.70c for less.

Improvement in the position of scrap continues and strength at first attributed to dealer confidence alone now has a better basis in shortened supplies and slightly better consumer demand. Prices are advancing generally and railroad tonnages are being bid up.

Steel Buying Heavy

Finished steel buying is steady, featured by the award of three Great Lakes ore freighters each taking 5000 tons. Approximately 35,000 tons still is pending for other ore vessels. Eastern plate consumers have placed contracts for a larger aggregate tonnage for third quarter than for the preceding three months. A pipe line from Amarillo, Tex., to Kansas City, on which alternate plans have just been proposed, involves 475 miles of 20-inch pipe or 100,000 tons of steel. Concrete bar lettings of 10,594 are unusually heavy and include 4000 tons for a pier at Mobile, Ala.

The Market Section

First half car buying shows betterment over 1925. Passenger car awards totaled over 900 and freight cars 40,068. This compares with 450 for passenger and 25,815 for freight cars in the same period of 1925. Current buying is scattered, including 450 to 500 box cars for the Georgia & Florida. June car awards were 4285. Miscellaneous rail buying continues at Chicago where 10,000 tons was placed during the past week.

Steadiness in the market is reflected in IRON TRADE REVIEW composite of fourteen leading iron and steel products at $37.74, the same as the preceding week.

Prices, Present and Past

Representative Market Figures for This Week, Last Month, Three Months and One Year Ago

	July 7, 1926	June 1926	April 1926	July 1925
PIG IRON				
Bessemer, valley, del., Pittsburgh	$20.76	20.76	21.56	20.76
Basic, valley	17.50	17.75	18.80	18.00
Basic, eastern del., eastern Pa.	21.00	21.75	21.75	21.50
*No. 2 foundry, del., Pittsburgh	19.76	19.76	21.06	20.26
No. 2 foundry, Chicago	21.00	21.10	22.00	20.30
*Southern, No. 2, Birmingham	21.00	21.00	22.00	18.00
*Southern Ohio, No. 2 Ironton	19.50	19.50	20.40	19.00
**No. 2X, Virginia furnace	23.00	23.00	23.25	23.00
**No. 2X, eastern del. Phila.	22.51	22.76	23.26	21.26
Malleable, valley	18.00	18.00	19.30	18.50
Malleable, Chicago	21.00	21.10	22.00	20.30
Lake Superior charcoal, Chicago	29.04	39.04	29.04	29.04
Gray forge, val., del., Pittsburgh	19.26	19.26	20.86	19.76
Ferromanganese, del., Pittsburgh	92.79	92.79	92.79	119.79
*1.75 to 2.25 silicon. **2.25 to 2.75 silicon.				
COKE				
Connellsville, furnace, ovens	2.60	2.70	3.05	2.80
Connellsville, foundry, ovens	3.75	3.75	4.10	3.75
SEMIFINISHED MATERIAL				
Sheet bars, open-hearth, Youngstown	36.00	36.00	36.00	35.00
Sheet bars, open-hearth, Pittsburgh	36.00	36.00	36.00	35.00
Billets, open-hearth, Pittsburgh	35.00	35.00	35.00	35.00
Wire rods, Pittsburgh	45.00	45.00	45.00	45.00
FINISHED MATERIAL				
Steel bars, Pittsburgh	2.00	1.90	2.00	2.00
Steel bars, Chicago	2.10	2.10	2.10	2.10
Steel bars, Philadelphia	2.32	2.22	2.32	2.32
Iron bars, Philadelphia	2.22	2.22	2.32	2.17
Iron bars, Chicago, mill	2.00	2.00	2.00	1.95
Beams, Pittsburgh	2.00	1.90	1.90	2.00
Beams, Philadelphia	2.32	2.22	2.22	2.22
Beams, Chicago	2.10	2.10	2.10	2.10
Tank plates, Pittsburgh	1.90	1.90	1.90	1.90
Tank plates, Philadelphia	2.22	2.22	2.22	2.22
Tank plates, Chicago	2.10	2.10	2.10	2.10
Sheets, black, No. 28, Pittsburgh	3.10	3.10	3.25	3.15
Sheets, blue anl., No. 10, Pittsburgh	2.30	2.35	2.50	2.30
Sheets, galvanized, No. 28, Pittsburgh	4.30	4.30	4.60	4.20
Sheets, black, No. 28, Chicago	3.30	3.35	3.45	3.35
Sheets, blue anl. No. 10, Chicago	2.45	2.55	2.65	2.45
Sheets, galvanized, No. 28, Chicago	4.45	4.55	4.70	4.40
Wire nails, Pittsburgh	2.65	2.65	2.65	2.70
Wire nails, Chicago	2.70	2.70	2.70	2.80
Tin plate per base box, Pittsburgh	$5.50	5.50	5.50	5.50
OLD MATERIAL				
Heavy melting steel, Pittsburgh	16.50	15.85	16.90	17.20
Heavy melting steel, eastern Pa.	15.25	15.15	15.90	16.00
Heavy melting steel, Chicago	14.00	12.65	13.20	15.35
No. 1 wrought, eastern Pa.	17.00	17.00	17.75	18.25
No. 1 wrought, Chicago	14.00	12.65	14.05	15.90
Rails for rolling, Chicago	17.00	15.10	16.00	17.45

Composite Market Average

The Fourteen Leading Iron and Steel Products Included are Pig Iron, Billets, Slabs, Sheet Bars, Wire Rods, Steel Bars, Plates, Structural Shapes, Black, Galvanized and Blue Annealed Sheets, Tin Plate, Wire Nails and Black Pipe

This week (July 7, 1926)	$37.74
Last week (June 30, 1926)	37.74
One month ago (June, 1926)	37.69
Three months ago (April, 1926)	38.48
One year ago (July, 1925)	37.45
Ten years ago (July, 1916)	39.37
Thirteen years ago (July, 1913)	26.34

Late News Flashes

Buys Charging Machines

Cleveland, July 6.—Carnegie Steel Co. has bought from the Wellman-Seaver-Morgan Co., Cleveland, four ground-type charging machines for its Duquesne Works, Duquesne, Pa.

Orders at Chicago Heavier

Chicago, July 6.—Makers of finished steel have had unusually heavy order mails. For plates, shapes, bars and sheets the order mail of the leading independent July 1 was the heaviest in its history. Steel ingot production continues to hover about the 90 per cent mark. Illinois Steel Co. is entering the third consecutive quarter with 11 of its 12 steelworks stacks at Gary in blast. For the district as a whole, 29 out of 36 steel works stacks are active.

Government Seeks Bounty Conference

Washington, July 6.—The state department has asked the German government, it is understood, for the names of the men to be appointed to confer with representatives of the American government in connection with the alleged payment of a bounty in Germany on iron and steel products.

This information is desired by the department, it is understood, before it announces the appointment of American representatives, who will be named after a reply is received.

Valley Operations at Lower Rate

Youngstown, July 6.—A lower rate of operation is in effect this week. Repair work being undertaken at certain finishing mills necessitated curtailment of steelworks activity from 73 to 60 per cent. Hot mill departments of two sheetmakers also are idle to permit repairs to be undertaken and sheet operation for the district is at 70 per cent compared with 82 per cent a week ago. The holiday was observed generally throughout the district, plants starting up Tuesday. Tin mills are operating full, bar and hot strip mills about 90 per cent each and cold strip mills about 75 per cent.

Shape Fabricator to Build Chicago Plant

Chicago, July 6.—Mississippi Valley Structural Steel Co., with plants at Decatur, Ill., and St. Louis, has announced its intention of constructing a large fabricating plant at Chicago. The Chicago plant, to be located in Melrose Park on the 18 acre tract recently purchased, will represent an expenditure of $750,000, and with the plants at Decatur and St. Louis, will give the Mississippi Valley company an annual output of 50,000 tons.

Current Rolled Steel Prices

PRICES, CENTS PER POUND, UNLESS OTHERWISE STATED

Semifinished Material

Prices per gross ton

BILLETS AND BLOOMS
4 x 4-inch base

Pittsburgh, open-hearth	$35.00
Pittsburgh, bessemer	35.00
Youngstown	35.00
Philadelphia	40.30
Chicago	35.00
Forging, Pittsburgh	40.00
Forging, Philadelphia	44.30 to 45.30

SHEET BARS

Pittsburgh	$36.00
Youngstown	36.00

SLABS

Pittsburgh	$35.00
Youngstown	35.00

WIRE RODS

Pittsburgh	$45.00
Cleveland	45.00
Chicago	46.00

Standard extras, $5 for screw stock; $15 for acid wire rods. Carbon extras, $3 for 0.20 to 0.40; $5 for 0.41 to 0.55; $7.50 for 0.56 to 0.75; $10 over 0.75.

SKELP

Grooved skelp	1.90c
Universal skelp, Pittsburgh	1.90c
Sheared skelp, Pittsburgh	1.90c

Structural Shapes

Pittsburgh	2.00c
Philadelphia	2.22c to 2.42c
New York	2.24c to 2.44c
Chicago	2.10c
Cleveland	2.19c
Birmingham	2.15c to 2.25c

Steel Plates

Pittsburgh	1.90c to 2.00c
Philadelphia	2.32c to 2.42c
New York	2.34c to 2.44c
Chicago	2.10c
Cleveland	2.19c
Birmingham	2.05c to 2.15c

Iron and Steel Bars

Pittsburgh, soft steel	2.00c
Pittsburgh, cold finishing	2.15c
Pittsburgh, forging quality	2.15c
Philadelphia, soft steel	2.32c to 2.42c
New York, soft steel	2.34c to 2.44c
Chicago, soft steel	2.10c
Cleveland, soft steel	2.19c
Birmingham, soft steel	2.15c to 2.25c
San Francisco, soft steel	2.60c
Pittsburgh, refined iron	3.00c to 4.50c
Pittsburgh, reinforcing billet	2.00c
Youngstown, reinf. billet, base	1.90c to 2.00c
Chicago, rail steel	2.00c
Mill rail steel	1.85c to 1.95c
Philadelphia, common iron	2.17c to 2.22c
New York, common iron	2.19c to 2.24c
Chicago, common iron	2.00c

Hoops, Bands, Strips

Hoops, Pittsburgh, 6 inches and under	2.50c
Bands, Pittsburgh, 6 inches and under	2.50c
Bands, Pittsburgh over 6 in.	2.80c
Hot rolled strip steel, Pittsburgh stamping quality	2.30c
Hot rolled strip steel, Chicago	2.50c to 2.60c
Bands, Chicago, under 6 inches	2.60c
Bands, Chicago, 6 in. and over	2.50c
Cold rolled strip steel, hard coils, 1½ inches and wider by 0.100-inch and heavier, base, Pittsburgh	3.65c to 3.75c
Worcester, Mass	4.05c
Chicago	4.20c

Cold Finished Steel

Cold finished steel bars, drawn, or rolled Pittsburgh, Chicago carloads	2.50c
Less carload	2.75c
Steel shafting turned and polished Pittsburgh, Chicago	2.60c

Screw stock base Cleveland $1 higher; and Worcester $3 higher than Pittsburgh and Chicago.

Hot Rolled Alloy Steel

Pittsburgh or Chicago

S. A. E. Series—

2300 (3½ per cent nickel)	4.40c to 4.50c
2100 (Nickel chromium)	3.40c to 3.50c
6100 (Chrome vanadium)	4.25c to 4.30c
6100 (Chrome vanad. spring)	3.85c
9250 (Silico-mang. spring)	3.25c

Rails, Track Material

Standard bessemer rails, mill	$43.00
Standard open-h'th rails, mill	43.00
Relaying rails, St. Louis	24.00 to 31.00
Relaying rails, Pittsburgh	23.00 to 25.00
Light rails, 25 to 45 mills	34.00 to 35.00
Angle bars, Chicago base	2.75c
Spikes, railroad, Pittsburgh	2.80c
Spikes, small railroad, 7-16-inch and smaller, Pitts	2.90c to 3.00c
Spikes, boat and barge, Pitts.	3.25c
Spikes, railroad, Chicago	2.90c
Track bolts, Pitts. standard	3.90c to 4.15c
Track bolts, Chicago	3.90c
Tie plates, Chicago	2.35c
Tie plates, Pittsburgh	2.25c to 2.35c

Wire Products

To Jobbers in Carloads

Dealers 5 cents per 100 pounds extra

F.o.b. Cleveland and Pittsburgh base	
Wire nails	2.65c
Galv'd nails smaller than 1-inch	4.90c
Galv'd nails, 1-inch and over	4.65c
Plain wire	2.50c
Annealed wire	2.65c
Galvanized wire No. 9 gage	3.10c
Barbed wire, painted	3.10c
Barbed wire, galvanized	3.35c
Polished staples	3.10c
Galvanized staples	3.35c

Coated nails, 100 pound kegs, subject to card of extras Feb. 1, 1926 over regular wire nail base.

Woven wire fencing (retailers) 12½ gage, 26-in. high 7-in. bars and 12-in. stays, per 100 rods, f.o.b. Pitts. $20.03

Joliet, DeKalb and Waukegan, Ill., and Anderson, Ind., prices $1 per ton over Cleveland-Pittsburgh base on products made there; Chicago $1 higher; Duluth $2 higher and Worcester, Mass., and Fairfield, Ala., $3 higher.

Sheets

SHEET MILL BLACK

No. 28, Pittsburgh, base	3.10c to 3.15c
No. 28, Philadelphia, delivered	3.32c to 3.47c
No. 28, Gary, Indiana Harbor	3.25c
No. 28, Chicago, delivered	3.30c

TIN MILL, BLACK

No. 28, Pittsburgh	3.00c to 3.15c
No. 28, Gary base	3.25c

GALVANIZED

No. 28, Pittsburgh, base	4.25c to 4.30c
No. 28, Philadelphia, delivered	4.52c to 4.62c
No. 28, Gary, Indiana Harbor	4.40c to 4.50c
No. 28, Chicago, delivered	4.45c to 4.55c

BLUE ANNEALED

No. 10, Pittsburgh, base	2.30c
No. 10, Philadelphia, delivered	2.62c to 2.72c
No. 10 Gary, Indiana Harbor	2.40c to 2.50c
No. 19, Chicago, delivered	2.45c to 2.55c

AUTOMOBILE SHEETS

No. 22, Pittsburgh, base	4.20c

Tin and Terne Plate

Prices per 100-pound box, Pittsburgh

*Tin plate, coke base	$5.50

Gary, Ind., base 10 cents higher.

Long ternes, base	4.85

*This price is subject to quantity differentials established by individual regulations.

Iron and Steel Pipe

Base Discounts Pittsburgh and Lorain, O. to Jobbers in Carloads

	Black	Galv.
1 to 3-inch butt steel	62	50½
1 to 1½-inch, butt iron	30	13

Indiana Harbor, Ind., and Evanston, Ill., 2 points less and $4 per ton higher. Chicago delivered 2½ points less and $5 per ton higher.

Boiler Tubes

Less Carload Discounts—Carloads 4 Points Additional—F.o.b. Pittsburgh Mills

Steel 2¼ to 3¾-inch	68½
Charcoal iron, 2¼ to 4½-inch	5
Seamless hot rolled, 3¼ to 3½-inch	46 off

Additional discounts of several 5 per cents being allowed.

Chain, Piling, Cut Nails

Chain, 1-in. proof coil, Pitts.	6.00c
Sheet piling base, Pittsburgh	2.25c to 2.30c
Cut nails, c. l., f.o.b. mills	2.80c

Cast Iron Water Pipe

Prices per net ton

Class B Pipe

Four-inch, Chicago	$52.20 to 53.20
Six-inch to 24-inch, Chicago	48.20 to 49.20
Over 24-inch, Chicago	45.20
Four-inch, Birmingham	44.00 to 45.00
Six-inch and over, Birmingham	40.00 to 41.00
Four-inch, New York	56.50 to 57.60
Six-inch and over, New York	51.50 to 52.60
Standard fittings, Birmingham base	$110.00,

6 to 24-inch, base; over 24-inch, plus $20; 4-inch, plus $20; 3-inch, plus $20; gas pipe fittings, $5 higher.

Class A pipe is $5 higher than Class B

Nuts and Bolts

F.o.b. basing points, Pittsburgh, Cleveland, Birmingham and Chicago.

Hot pressed square tapped or blank	$4.00 off list
Hot pressed hexagon tapped or blank	$4.40 off list
Cold punched square or hexagon blank	$4.10 off list
Cold punched square or hexagon tapped or blank	$4.10 off list

Cold punched U. S. S. semifinished hexagon nuts ⅝-inch and larger 75, 10 and 5 off

Cold punched U. S. S. semifinished hexagon nuts 9/16-inch and smaller 80, 10 and 5 off

Cold finished S. A. E. semifinished ⅝-inch and larger 75, 10, 10 and 5 off

Cold finished S. A. E. semifinished 9/16-inch and smaller 80, 10, 10 and 5 off

CARRIAGE BOLTS
(⅜ x 6-inch, smaller and shorter)

Rolled thread	50, 10 and 10 off
Cut thread (all sizes)	50 and 10 off
Eagle carriage bolts (Eagle list)	65 and 10 off

MACHINE BOLTS
(⅜ x 4-inch, hot pressed nuts)

Rolled thread	60 and 10 off
Cut thread (all sizes)	50, 10 and 10 off

(All sizes cold punched nuts)

Cut thread	45, 10 and 5 off
Lag screws	60, 10 and 10 off
Plow bolts Nos. 3 and 7 heads	50 and 10 off
All other standard heads	50 and 10 off plus 20 per cent
Tap bolts	80 off
Bolt ends with hot pressed nuts	50, 10 and 10 off
Bolt ends with cold punched nuts	45, 10 and 5 off
Blank bolts	50, 10 and 10 off

Rough stud bolts with nuts (250 pieces or more of a size) 40 and 10 off

Stove bolts, 80, 10 and 5 off plus 2½ off in bulk.

Tire bolts	60 and 5 off

SEMIFINISHED CASTELLATED AND SLOTTED NUTS

Per 1000, f.o.b. producer's plant, freight allowed

	S.A.E. Castellated	U.S.S. Slotted
¼	$ 4.40	$ 4.40
5/16	5.15	5.15
⅜	6.20	6.60
7/16	7.90	9.00
½	10.10	10.50
9/16	13.80	14.20
⅝	17.00	17.80
¾	28.50	24.00
⅞	36.00	36.00
1	55.50	58.00
1⅛	89.00	89.00
1¼	126.00	131.00
1⅜	183.50	183.50
1½	210.00	210.00

Larger sizes—Prices on application

HEXAGON CAP SCREWS

Milled	80 and 10 off
Upset	80, 10 and 10 off

SQUARE HEAD SET SCREWS

Milled	80 and 5 off
Upset	80, 10 and 5 off

Rivets

Structural rivets, carloads, Pittsburgh and Cleveland	2.50c to 2.60c
Structural rivets, carloads, Chicago	70, 10 and 5 to 70 and 10 off
**Rivets, 7/16-inch and smaller, Pittsburgh Cleveland	70 and 10 to 70 and 5 off
**Rivets, 7/16-inch and smaller Chicago	70, 10 and 5 to 70 and 10 off

**Some makers quoting 70 off with freight allowed on 500 pounds or more.

Washers

Wrought c.l., Chicago dist.	$6.40 to 6.50 off
Wrought c.l., Pitts dist	6.50 to 6.55 off
Lock washers, f.o.b. factory	85 to 90 off

Pig Iron

Buying Movement Now Covers 1,450,000 Tons—Fourth Quarter Inquiries More Numerous—Valley Price Is Easier

WHILE the pig iron buying movement has tapered off, sales during the past week added a good volume to order books, and the total for the buying movement to date is approximately 1,450,000 tons. During the week furnace interests with headquarters at Cleveland took 120,000 tons, and sellers at Chicago, 100,000 tons. The former have booked a total of about 670,000 tons, and the Chicago total is 300,000 tons, for third and fourth quarter. More inquiries for the fourth quarter have developed, with some of the buyers who had previously closed for third quarter returning for that period. No. 2 foundry iron and malleable now are quoted at $17.75 to $18 base, valley, by at least two furnaces.

PITTSBURGH, July 6.—Most pig iron users now are fully protected for this quarter and some for the entire last half. A few users carrying over large stocks from second quarter will not buy before the last quarter. One more valley merchant stack is quoting $17.75, base, for No. 2 foundry and malleable, meeting the situation created by the Westinghouse Air Brake Co.'s purchase of part of its foundry requirements at that minimum. The company also paid $18 valley for a large portion of the 15,000 ton aggregate tonnage placed. One other sale of 1000 tons of No. 2 foundry iron closed just before the Air Brake company ordered also brought $18, and small lots since have sold at that figure. Efforts to introduce an advance of 50 cents to $18.50, valley, on No. 2 plain have proved ineffectual. Nevertheless, two makers are holding to that as minimum. While a valley steelworks furnace sold in excess of 1000 tons of basic at $18, valley, the American Steel Foundries Co. still is negotiating for a figure below $17.50 on 3000 to 5000 tons of that grade. A few producers are not quoting below $18. The Union Steel Casting Co. is in the market for a round tonnage. Bessemer iron is $19, valley, on recent small sales.

Bessemer and basic iron average sales prices as compiled by W. P. Snyder & Co. for June are the same as they were in June 1925, namely $19 and $18, respectively. This represents a reduction of 0.359 cents in bessemer from the May 1926 average but the June basic average is the same as May, $18.

Boston, July 6.—Pig iron buying continues active. Sales in the past week have been smaller individually than for the previous week, but there have been more of them and the total is about the same. Prices while still low have not shown further decline, and several eastern furnaces are less anxious for tonnage. The $18 base Buffalo price or equivalent has held for most round tonnage sales. This means $22.91, delivered. Despite the buying movement of the past two weeks stocks are low.

New York, July 6.—Pig iron buying continues good here. It is estimated that sales in this territory during the past week aggregated over 12,000 tons. The Richardson & Boynton Co. is understood to have raised its purchases for second half from 5500 to 8000 tons. Central Foundry Co. has been an active buyer for third quarter and it is understood to have bought foreign iron. The leading inquiry here is one for 3000 tons for the New York Air Brake Co. including 1500 tons of foundry and 1500 tons of malleable. Other inquiries swell the total now pending to 8000 to 10,000 tons. As a result of recent price cutting the range of prices on eastern Pennsylvania foundry now is $21 to $21.50, base furnace, and it may be said that the lower price is being done on more tonnage than the higher figure. No further cutting of the $21 price has been reported. On most sales of Buffalo iron the price is $19, base Buffalo. As previously reported, this figure has been shaded materially in competition with furnaces in the eastern part of New York state and in New England. Indian iron is bringing $21 base duty paid tidewater. Dutch is bringing $21.25 to $21.50 base duty paid tidewater. The silicon differentials on both Indian and Dutch iron show some variation. German iron, which again is offered freely, generally ranges from $20.50 to $21, duty paid tidewater, with occasional sales at $20. American Tube & Stamping Co., Bridgeport, Conn., is inquiring for a large tonnage of basic iron.

Philadelphia, July 6.—Although the holiday has cut into pig iron buying the total of purchases is impressive. Fully 15,000 tons of basic was closed during the week. This grade is easier now, at $21 to $21.25, delivered. Sales of foundry iron aggregated 15,000 tons, much of which was placed quietly. Eastern Pennsylvania foundry iron now is $21 to $21.50, base, furnace, with the lower figure more frequent. Eastern furnaces sold 2000 tons of low phosphorus iron including some for shipment to middle western points.

Buffalo, July 6.—New inquiry for pig iron is estimated at 20,000 to 30,000 tons. Sharp competition by eastern furnaces has forced Buffalo iron sellers to cut their $20 base in New England and other markets but they insist $20 remains in effect here. Furnaces with mill connections may have gone as low as $18.50, or possibly to $18, to get some eastern business. Orders have increased and quick shipments are being asked by some buyers. Twelve furnaces continue in blast. Sales of the past ten days have totaled fully 25,000 tons.

Cleveland, July 6.—Pig iron sales by furnace interests with headquarters here continue heavy. The aggregate amount added to furnace books during the last week was 120,000 tons, and the total during the buying movement to date is about 670,000 tons, divided

(*Concluded on Page* 109)

Pig Iron Prices

Prices per gross ton

Bessemer, valley	$19.00
Bessemer, Pittsburgh	20.76
Basic, valley	17.50 to 18.00
Basic, Pittsburgh	19.26 to 19.76
Basic, Buffalo	19.00 to 19.50
Basic, del., eastern Pa.	21.00 to 21.25
Malleable, valley	17.75 to 18.00
Malleable, Pittsburgh	19.51 to 19.76
Malleable, del., Cleveland	19.50
Malleable, Chicago	21.00
Malleable, Buffalo	19.00 to 20.00
Malleable, del., eastern Pa.	22.00 to 23.00
No. IX, Eastern del., Phila.	22.76 to 23.26
No. IX, Buffalo	20.50 to 21.00
No. 1 foundry, Chicago	21.50
No. 2 foundry, valley	17.75 to 18.00
No. 2 foundry, Pittsburgh	19.51 to 19.76
No. 2 foundry, Buffalo	19.00 to 20.00
No. 2 foundry, Chicago	21.00
No. 2 foundry, Granite City	22.00 to 22.50
No. 2 foundry, Ironton furnace	19.50
No. 2 foundry, del., Cleveland	19.50
No. 2 foundry, del., Phila.	21.76 to 22.26
No. 2 foundry, N. J., tidewater	23.39
No. 2X, eastern del., Phila.	22.26 to 22.76
No. 2X, east. N. J., tidewater	23.89
No. 2X, foundry, Buffalo furnace	20.00 to 20.50
No. 2X, eastern del., Boston	24.15 to 24.65
No. 2X, Buffalo, del., Boston	22.91 to 23.91
Continental foundry f.o.b. Boston	19.00 to 20.00
India, 2.25 to 2.75 silicon, delivered cars, Boston	20.00 to 21.00
No. 2 Alabama, Birmingham	21.00
No. 2 Alabama, Cincinnati	24.69
No. 2 Tenn., Birmingham	21.00
No. 2 Tenn., Cincinnati	24.69
No. 2 Alabama, Philadelphia	27.01
No. 2 Alabama, Chicago	27.01
No. 2 Alabama, Chicago (barge and rail)	26.18
No. 2 Alabama, Boston (rail and water)	27.91
No. 2 Alabama, Cleveland	27.01
No. 2 Alabama, St. Louis	25.42
No. 2X, Virginia, furnace	22.50 to 23.25
No. 2X, Virginia, Phila	27.67 to 28.42
No. 2X, Virginia, Jersey City	28.04 to 28.79
No. 2X, Virginia, Boston	28.42 to 29.17
Gray forge, eastern Pa.	21.00 to 21.25
Gray forge, val. del. Pitts.	19.26
Low phos., standard, valley	27.50
Low phos., standard, Phila	24.26
Low phos., Lebanon, furnace	23.00 to 24.00
*Low phos., English (nominal)	24.01 to 24.51
Charcoal, Birmingham	30.00
Charcoal, Superior, Chicago	29.04

Silvery iron Jackson county, Ohio furnace, 5 per cent $24.50; 6 per cent $25.50; 7 per cent $26.50; 8 per cent $27.50; 9 per cent $29.00; 10 per cent $31.00; 11 per cent $33.00; 12 per cent $35.00; 13 per cent $37.00; and 14 per cent $39.00.

Bessemer ferrosilicon, Jackson county, Ohio, furnace, 10 per cent $33.00; 11 per cent $35.00; 12 per cent $37.00; 13 per cent $39.00; 14 per cent $41.00; 15 per cent $44.00; 16 per cent $46.00; 17 per cent $48.50.

*Duty paid, delivered Philadelphia consumers.

Coke

Market Is Firmer Due to Holiday Letdown in Production—Furnace Needs Covered

A STRONGER price situation prevails in the beehive coke market owing to the holiday lull. Double shipments were made toward the close of last week, and some producers were buying to make up shortages. Spot prices below $2.85 disappeared, and $3 is quoted by some oven interests. Furnace requirements are practically covered. Foundry demand is less active.

Pittsburgh, July 6.—Double shipments of beehive coke the latter part of last week, in view of the Monday holiday cleaned up the available spot coke supply, hence today strong market prices prevail. On Saturday no spot coke was available because operators themselves were buying to make up their own shortages. Spot prices below $2.85 disappeared and for time being some makers will not sell below $3. The tight situation may last until July 15. Several operators have disposed of their expected surplus until that time. With one valley stack extending its arrangement with its present coke source the only blast furnace business now pending here is that of the McKinney Steel Co. for its stack at Charlotte, N. Y., planning a three months run to clean up its ore stock. Medium sulphur coke also is partaking of present strength of the market. Prices are $2.60 to $2.75 as against a recent $2.50 maximum. Foundry coke is not so active as three weeks ago. Small lots alone are moving at $3.75 to $5.50.

Production of coke in the Connellsville region for the week ended June 26 was 139,910 tons compared with 136,730 tons the preceding week, according to the *Connellsville Courier*.

New York, July 6.—In view of the fact that foundries generally in this territory have bought their coke on contracts, spot buying is small. The price of spot beehive foundry coke ranges from $4 to $5.25 Connellsville depending on the brand and on how fast the coke has to be moved. The price of by-product foundry coke continues to range from $9.59 to $10.77, delivered at Newark and other Northern New Jersey consuming points depending on the freight.

Cincinnati, July 6.—Producers and sellers of by-product and beehive foundry coke here have renewed a number of contracts covering last half shipment. Spot buying also is on a broader scale for virtually all grades. The active demand for heating fuel is attributed to low prices. Movement of heating and core oven coke into this market from the Connellsville district has increased materially. Prices generally are unchanged.

St. Louis, July 6.—Large tonnage of foundry coke has been placed within the past ten days. Melters generally are covering on their requirements over the next 12 months, and by-product report orders from sections which heretofore have not purchased in this market. The largest single sale reported was 15,000 tons to a manufacturer of heating apparatus. An Iowa melter placed 4000 tons and a local foundry interest 1500 tons. The St. Louis Coke & Iron Co. reports sales of 5000 to 8000 tons to small users. Prices are unchanged.

Birmingham, Ala., July 6.—By-product plants in this district are operating to capacity. Beehive oven coke is not finding a strong market. Quotations range from $5.50 to $6 for the foundry grade.

Coke Prices

Beehive, Ovens

Prices per net ton

Connellsville furnace	$2.85 to 3.00
Connellsville foundry	3.75 to 4.75
New River foundry	6.50 to 7.00
New River furnace	4.50 to 5.00
Wise county furnace	3.25 to 3.50
Wise county foundry	4.25 to 5.50
Alabama foundry	5.50

By-Product

Foundry, Newark, N. J.; del.	$9.59 to 10.77
Foundry, Chicago, ovens	9.75
Foundry, New England, del.	12.00
Foundry, St. Louis	10.00
Foundry, Granite City, Ill.	10.00
Foundry, Birmingham	5.50 to 6.00
Foundry, Indianapolis, del.	10.25
Foundry, Ashland, Ky.	7.50
Foundry, Portsmouth, O.	7.50

Ferroalloys

Specifications Continue High—Some Price Adjustments Made

Pittsburgh, July 6.—Specifications against ferroalloy contracts continue practically unabated. Apparently there is no ground for the report that the present period of good business following the slump in May is the result of artificial inflation. It is too widespread for that. Apparently most of the ferromanganese bought is going into immediate consumption. The recent price action on the part of the E. J. Lavino Co. was taken out of a spirit of fairness to its customers meeting the condition created by one seller taking business at the $88 figure. It is issuing numerous credit memorandums since this quotation of $88 is retroactive to March 26, 1926 and applies not only upon business taken in the interval but upon business already shipped and billed at the higher figure. Other alloy orders are being specified against with regularity and quoted prices are unchanged.

New York, July 6.—Further spiegeleisen contracts have been closed and substantially all consumers now are covered for second half. It is learned that practically all contracts were specified in full over the first half and that consumption continues heavy. The price is unchanged at $34, furnace, for the 20 per cent grade in carloads, subject to concessions for large tonnages. E. J. Lavino & Co.'s action in reducing its ferromanganese contract price to $88, duty paid tidewater, retroactive to March 26, puts that company on the same basis as the Electrometallurgical Sales Corp. which sometime ago reduced its price on all contracts to $88. The former interest now quotes $95, duty paid tidewater, on spot carloads of ferromanganese while the latter company continues at the $88 price. The Bethlehem Steel Co. the third important source of the ferromanganese requirements for 1926, is understood to have made no general readjustment and to have contracts on its book at various prices; Bethlehem's current price is $90, duty paid tidewater. Shipments of ferromanganese on contracts is at a heavy rate.

Cleveland, July 6.—Special ferroalloys are in steady markets and shipments of most alloys are holding up well. Tungsten ore still is quiet but some factors report prices firmer.

Chicago, July 6.—Fifty per cent ferrosilicon is up $2.50, with only occasional sales. Ferromanganese and spiegeleisen prices are unchanged.

Receivers Are Named

T. McC. Marsh and D. R. Van Duyne have been appointed equity receivers for the Day-Elder Motors Corp. of Irvington, N. J. Mr. Marsh is secretary of the company. The applying petition was filed by the Timken-Detroit Axle Co., which claimed $3837. Liabilities were not scheduled. Assets were listed at about $340,000.

Ferroalloy Prices

†Ferromanganese 78 to 82 per cent, tidewater, or furnace first hand and resales	$88.00
Ferromanganese delivered Pittsburgh	92.79
Spiegeleisen 19 to 21 per cent domestic furnace or tidewater	32.00 to 34.00
Ferrosilicon, 50 per cent freight allowed	85.00 to 87.50
Ferrotungsten standard, per pound contained	1.00 to 1.05
Ferrochrome, 60 to 70 chromium, 6 to 8 carbon, cents per pound contained, delivered	11.00 to 11.50
Ferrovanadium, 30 to 40 per cent per pound estimated, according to analysis	3.25 to 4.00
Ferro-carbon-titanium, car lots, producer's plant, net ton	200.00
Ferrophosphorus, electrolytic, per ton, carload, 17 to 19 per cent, Rockdale, Tenn., basis (18 per cent material)	91.00
Ferrophosphorus, electrolytic, per ton, carload, 23 to 25 per cent, f.o.b. Anniston, Ala., (24 per cent materials)	122.50

†Duty paid.

The Market Section

Plates

Buyers Show More Confidence in Market—Eastern Contracts Heavier—Lake Boats Awarded

THE plate market shows firmness, and the general tonnage continues to improve. Eastern consumers have contracted for the third quarter on a larger scale than they did for the last three months, and 1.90c, Pittsburgh applied on most of the business. Three Great Lakes boats requiring a total of 15,000 tons of plates have been awarded.

PLATE PRICES, PAGE 94

New York, July 6.—An impressive showing of strength has been demonstrated in the plate market here the past week. Consumers have contracted on an even larger scale for the third quarter than was the case three months ago for the second quarter. The 1.90c base Pittsburgh price, equivalent to 2.24c delivered New York, has been adheared to firmly on all this third quarter business. Indications are that by the end of this week substantially all the important consumers in this territory will have been signed up for the third quarter. Strength also is shown on spot business. Shading of the 1.90c Pittsburgh price seems to have disappeared almost entirely. One consumer who quite regularly is able to buy at less than market prices, placed a large tonnage at 1.90c in the past week. Requirements of oil companies here predominate. The Standard Oil Co. of New Jersey is placing some important tonnage for stills. The United States Steel Products Co. has booked an order for 650 tons of plates for Canton, China.

The New York Central railroad, which opened bids last Thursday on its third quarter plate requirements, obtained the following figures: Bethlehem Steel Co. 1.90c base West Seneca., Illinois Steel Co. 2.10c Indiana Harbor; Carnegie Steel Co. 2.01c, Younstown; Inland Steel Co. 2.10c Indiana Harbor; Youngstown Sheet & Tube Co. 1.90c, Youngstown; National Enameling & Stamping Co. 2.00c Granite City; Otis Steel Co. 1.90c Cleveland; Alan Wood Iron & Steel Co. 2.18½c Newberry Junction; Central Iron & Steel Co. 2.18½c Newberry Junction; Jones & Laughlin Steel Corp. 1.90c Pittsburgh; Lukens Steel Co. 1.90c Coatesville.

Boston, July 6.—Plates are firm at 1.90c, Pittsburgh, or 2.265c delivered, though demand is quieter. Much work which is in prospect is being postponed until later in the season. The Maine Central railroad and the Bangor & Aroostook railroad are completing plans for several bridges.

Pittsburgh, July 6.—Plate contracts continue to accrue at the 1.90c figure, mills reporting a better attitude among buyers, with more confidence expressed generally. Improved sentiment is spreading among buyers and sellers. Tank builders note a lack of awards coming to this territory, this business for the most part going to Chicago and southwestern districts. One or two riveted pipe jobs are projected and a number of barge orders are in prospect. A possible tank buyer is the Louisville Petroleum Refining Co., Louisville, Ky.

Cleveland, July 6.—The largest item of prospective plate tonnage remains the unusually extensive list of lake vessel projects now up for bids. As stated previously these involve at least 50,000 tons which does not include the two ore freighters for the Pittsburgh Steamship Co. now definitely abandoned for the season. The number of ore freighters in the market now is put not less than seven, some other propositions having just developed. Miscellaneous plate orders are keeping up well. Prices are steadier than in weeks at 2.09c, Cleveland.

Chicago, July 6.—Plate mills continue to book heavy tonnages for Texas oil storage tankage. Typifying the demand, one maker received specifications with an order requiring 2500 tons. About 4000 tons of plates for car work has been booked by the leading independent. July and August capacity for plates is covered by specifications already in hand but insistent requirements of customers can be met, as usual, by extended rollings. Universal and sheared plate are sold ahead equally well. The leading independent's order mail for plates and other finished lines July 1 was the heaviest in its history. Plates are quoted at 2.10c, Chicago.

CONTRACTS PLACED

1000 tons, estimated, for tanks for the Panhandle, Tex., field awarded the Mount-Copper Co., Tulsa, Okla.

130 tons, steel tank for Los Angeles, Spec. 795-A, to Western Pipe & Steel Co.

CONTRACTS PENDING

400 tons, plates and shapes, auto ferry, Seattle; plans being prepared.

Semifinished

Consumers Continue to Defer Contracts — Early Requirements Are Placed

A FEW orders for billets and slabs have been taken by Pittsburgh mills at $35, but action on recent sheet bar inquiries still is deferred. Sheet mills are trying to obtain a lower price than $36. Some users are not placing contracts, but buying currently at the prevailing prices. Additional wire rod contracts are noted at $45.

SEMIFINISHED STEEL PRICES, PAGE 94

Pittsburgh, July 6.—Again this past week a few semifinished steel orders have been taken, a fair number for the entire third quarter in billets and slabs at the full market price $35, and some for customers' needs of simply a month or two. Some strip steel interests and one or two other buyers, including the Universal Steel Co., Bridgeville, Pa., now are protected. Some few sheet bar inquiries pending last week are not as yet closed, the buyers making strong efforts to develop figures lower than the $36 price universally held. Wire rod contracts are commencing to be lined up at $45 and some skelp business has been taken at 1.90c. Forging billet buyers already are actively specifying their July requirements against $40 contracts.

Youngstown, July 6.—Not a single contract for third quarter semifinished material has been made with producers in this district. A few consumers have had a standing arrangement with one mill for a long period and these users will receive contracts for their signature soon. Meanwhile most users of sheet bars with mill connections here are taking out tonnage on an open market basis paying $36, Youngstown. Small billets are quoted at the same level and standard slabs and billets at $35, Youngstown. Delay in signing third quarter semifinished contracts is due to divergent views concerning the price, makers standing for $36, Youngstown, and consumers driving for a lower figure.

Philadelphia, July 6.—The Pennsylvania railroad is negotiating for 500 tons of billets. Otherwise billet demand is small. Consumers are refraining from contracting, and will buy hand-to-mouth for third quarter. Consumers generally have contracted for wire rods at $45, Pittsburgh.

Cleveland, July 6.—Orders for sheet bars, billets and slabs continue to be placed in moderate volume, as current needs arise, but there is little contracting for the third quarter. Inquiries show improvement. The market still is quotable at $36 for sheet bars, and $35 for standard billets and slabs, valley or Cleveland.

Iron and Steel Scrap Prices

Corrected to Tuesday noon. Gross Tons Delivered to Consumer

Steel Works Scrap

HEAVY MELTING STEEL

Birmingham	13.00 to 13.50
Boston (dealers)	10.50 to 11.00
Buffalo, No. 1	15.75 to 16.25
Buffalo, No. 2	14.75 to 15.25
Chicago	14.00 to 14.50
Cincinnati (dealers)	11.00 to 11.50
Cleveland No. 1	13.75 to 14.25
Cleveland, No. 2	13.00 to 13.50
Detroit	12.50 to 13.00
Eastern Pennsylvania	15.00 to 15.50
Bethlehem delivery	14.50
New York (dealers)	9.75 to 10.25
Pittsburgh	16.50 to 16.75
St. Louis	13.00 to 13.50
Valleys, No. 1	16.00 to 16.25

COMPRESSED SHEETS

Buffalo	14.50 to 15.00
Chicago	10.75 to 11.25
Cleveland	13.00 to 13.50
Detroit	10.75 to 11.25
Pittsburgh	14.50 to 15.00
Valleys	14.50 to 15.00

BUNDLED SHEETS

Buffalo	10.00 to 10.50
Cincinnati (dealers)	7.00 to 7.50
Cleveland	11.00 to 11.50
Eastern Pennsylvania	13.50
Pittsburgh	13.50 to 14.00
St. Louis	7.50 to 8.00

SHEET CLIPPINGS, LOOSE

Chicago	8.25 to 8.75
Cincinnati	6.50 to 7.00
Detroit	7.00 to 7.50

STEEL RAILS, SHORT

Birmingham	13.00 to 14.00
Buffalo	16.00 to 16.50
Chicago	17.50 to 18.00
Cincinnati (dealers)	16.00 to 16.50
Cleveland (over 6 ft.)	14.50 to 15.00
Detroit	15.50 to 16.00
St. Louis	15.50 to 16.00

STOVE PLATE

Birmingham	14.00 to 14.50
Boston (consumers)	13.00 to 13.50
Buffalo	15.00 to 15.25
Chicago (net)	14.00 to 14.50
Cincinnati (dealers) (net)	7.50 to 8.00
Cleveland	13.00 to 13.50
Detroit (net tons)	12.50 to 13.00
Eastern Pennsylvania	13.50 to 14.00
New York (dealers)	9.50 to 10.50
Pittsburgh	12.50 to 13.00
St. Louis	14.50 to 15.00

LOW PHOSPHORUS

Buffalo, billet and bloom crops	17.50 to 18.00
Cincinnati (dealers)	15.50 to 16.00
Eastern Pennsylvania	19.00 to 20.00
Pitts. billet and bloom crops	20.00 to 20.50
Cleveland, billet and bloom crops	18.00 to 18.50

SHOVELING STEEL

Chicago	13.75 to 14.25
Pittsburgh	12.00 to 12.50
St. Louis	13.00 to 13.50

KNUCKLES, COUPLERS, SPRINGS

Chicago	17.00 to 17.50
Eastern Pennsylvania	17.00 to 17.50
Pittsburgh	18.50 to 19.00
St. Louis	15.00 to 15.50

FROGS, SWITCHES, GUARDS

Chicago	15.50 to 16.00
Eastern Pennsylvania	16.00 to 16.50
St. Louis	14.50 to 15.00

ANGLE BARS—STEEL

Buffalo	16.50 to 17.00
Chicago	16.00 to 16.50
St. Louis	13.50 to 14.00

Iron Mill Scrap

RAILROAD WROUGHT

Birmingham	$12.00 to 13.00
Boston (dealers)	13.00 to 13.50
Buffalo, No. 1	13.50 to 14.00
Buffalo, No. 2	15.00 to 15.50
Chicago, No. 1	14.00 to 14.50
Chicago, No. 2	14.00 to 14.50
Cincinnati, No. 1 (dealers)	8.00 to 8.50
Cleveland, No. 1	11.50 to 12.00
Eastern Pennsylvania	16.50 to 17.50
New York, No. 1 (dealers)	14.50 to 15.00
Pittsburgh, No. 1	11.50 to 12.00
Pittsburgh, No. 2	16.50 to 16.75
St. Louis, No. 1	12.50 to 13.00
St. Louis, No. 2	13.00 to 13.50

WROUGHT PIPE

Boston (dealers)	9.50 to 10.00
Eastern Pennsylvania	14.00 to 14.50
Buffalo	15.00 to 15.50
New York (dealers)	9.75 to 10.25

YARD WROUGHT

Boston	12.00 to 12.50
Eastern Pennsylvania	16.00

BUSHELING

Buffalo	14.50 to 15.00
Chicago, No. 1	12.00 to 12.50
Chicago, No. 2	8.75 to 9.25
Cincinnati, No. 1 (dealers)	8.00 to 8.50
Cleveland, No. 1	11.50 to 12.00
Cleveland, No. 2	11.00 to 11.25
Pittsburgh, No. 1	14.00 to 14.50
St. Louis, No. 1	11.00 to 11.50

MACHINE SHOP TURNINGS

Birmingham	8.00 to 8.50
Boston (chemical)	8.00 to 8.50
Buffalo	10.00 to 10.25
Chicago	7.75 to 8.25
Cincinnati (dealers)	6.50 to 7.00
Cleveland	10.00 to 10.50
Detroit	7.50 to 8.00
Eastern Pennsylvania	13.50
New York (dealers)	9.25 to 9.75
Pittsburgh	11.00 to 11.50
St. Louis	7.00 to 7.50

CAST IRON BORINGS

Birmingham (chemical)	15.50 to 16.50
Birmingham (plain)	8.00 to 8.50
Boston (chemical)	10.50 to 10.75
Boston (dealers)	8.50 to 9.00
Buffalo	11.75 to 12.25
Chicago	10.75 to 11.25
Cincinnati (dealers)	7.00 to 7.50
Cleveland	11.00 to 11.50
Detroit	8.50 to 9.00
Eastern Pennsylvania	13.50
Eastern Pennsylvania (chem.)	15.00 to 15.50
New York (dealers)	8.75 to 9.75
Pittsburgh	12.00 to 12.50
St. Louis	10.00 to 10.50
Valleys	12.50 to 13.00

MIXED BORINGS AND TURNINGS
For blast furnace use

Boston (dealers)	8.00 to 8.50
Buffalo	11.75 to 12.25
Cincinnati (dealers)	6.50 to 7.00
Cleveland	10.00 to 10.50
Detroit	8.50 to 9.00
Eastern Pennsylvania	12.50 to 13.00
New York (dealers)	9.25 to 9.75
Pittsburgh	12.00 to 12.50

PIPES AND FLUES

Chicago (net)	9.25 to 9.75
Cincinnati (dealers)	7.00 to 7.50
St. Louis	9.00 to 9.50

RAILROAD GRATE BARS

Buffalo	13.50 to 14.00
Chicago (net)	13.50 to 13.75
Cleveland	13.50 to 13.75
Eastern Pennsylvania	13.50 to 14.00
New York (dealers)	11.00 to 11.50
St. Louis	14.00 to 14.50

FORGE FLASHINGS

Boston (dealers)	8.75 to 9.00
Buffalo	12.00 to 12.50
Chicago	9.25 to 9.75
Cleveland (under 10 in.)	11.50 to 12.00
Cleveland (over 10 in.)	11.50 to 12.00
Detroit	8.75 to 9.25
Pittsburgh	12.00 to 12.50

FORGE SCRAP

Boston (dealers)	8.50 to 9.00
Chicago	17.25 to 17.75
Eastern Pennsylvania	13.50

ARCH BARS AND TRANSOMS

Chicago (net)	19.50 to 20.00
St. Louis	20.50 to 21.00

Iron Steel Works Scrap

AXLE TURNINGS

Boston (dealers)	8.50 to 9.00
Buffalo	13.50 to 14.00
Chicago	13.25 to 13.75
Cleveland	12.50 to 13.00
Eastern Pennsylvania	13.75 to 14.25
Pittsburgh	14.50 to 15.00
St. Louis	9.00 to 9.50

STEEL CAR AXLES

Birmingham	17.00 to 18.00
Boston (shipping point)	18.00 to 18.50
Buffalo	16.50 to 17.00
Chicago	20.00 to 20.50
Cleveland	16.00 to 16.50
Eastern Pennsylvania	22.00 to 23.00
Pittsburgh	20.00 to 20.50
St. Louis	19.50 to 20.00

SHAFTING

Boston (shipping point)	15.50 to 16.50
Chicago	19.50 to 20.00
Eastern Pennsylvania	20.00 to 21.00
New York (dealers)	17.50 to 18.00
St. Louis	17.50 to 18.00

Iron Foundry Scrap

CAR WHEELS

Birmingham, iron	$16.00 to 16.50
Boston (consumers)	17.00 to 17.50
Buffalo, iron	16.50 to 17.00
Buffalo, steel	17.00 to 17.50
Chicago, iron	16.00 to 16.50
Chicago, steel	17.50 to 18.00
Cincinnati	11.00 to 11.50
Eastern Pennsylvania	16.50 to 17.00
New York iron (dealers)	12.50 to 13.50
Pittsburgh, iron	16.50 to 17.00
Pittsburgh, steel	18.50 to 19.00
St. Louis, iron	15.50 to 16.00
St. Louis, steel	16.50 to 17.00

NO. 1 CAST SCRAP

Birmingham, cupola	16.50 to 17.00
Boston	18.00 to 18.50
Buffalo	16.00 to 16.25
Chicago, No. 1 machinery	19.50 to 20.00
Chicago No. 1 railroad or agricultural	18.50 to 19.00
Cincinnati No. 1 Machinery cupola (net tons dealers)	17.00 to 17.50
Cleveland, cupola	16.75 to 17.25
Detroit (net tons)	15.00 to 15.50
Eastern Pennsylvania, cupola	17.50 to 18.00
New York, cupola (dealers)	14.50 to 15.00
Pittsburgh, cupola	15.50 to 16.00
San Francisco, delivered	20.00 to 21.00
Seattle	16.50
St. Louis, railroad	16.00 to 16.50
St. Louis, agricultural	16.00 to 16.50
St. Louis, machinery	18.50 to 19.00
Valleys	17.50

HEAVY CAST

Boston	15.50 to 16.00
Buffalo (breakable)	14.00 to 14.50
Cleveland	13.00 to 13.25
Detroit (Automobile) (net tons)	20.00 to 20.50
Eastern Pennsylvania	16.50 to 17.00
New York (dealers)	13.50 to 14.00
Pittsburgh	14.00 to 14.50

MALLEABLE

Boston, railroad	19.00 to 19.50
Buffalo	16.50 to 17.00
Chicago, agricultural	15.25 to 15.75
Chicago, railroad	17.75 to 18.25
Cincinnati, railroad (dealers)	14.00 to 14.50
Cincinnati, agricultural (dealers)	13.50 to 14.00
Cleveland, agricultural	17.50 to 18.00
Cleveland, railroad	18.50 to 19.00
Detroit	14.00 to 14.50
Eastern Pennsylvania, railroad	16.00 to 16.50
Pittsburgh, railroad	18.00 to 18.50
St. Louis, agricultural	13.50 to 14.00
St. Louis, railroad	14.75 to 15.25

Miscellaneous Scrap

RAILS FOR ROLLING
5 feet and over

Birmingham	15.00 to 15.50
Boston (dealers)	11.00 to 11.50
Buffalo	17.00 to 17.50
Chicago	17.00 to 17.50
Cleveland	16.00 to 16.25
Eastern Pennsylvania	15.50 to 16.50
New York	13.75 to 14.25
Pittsburgh district	18.00 to 18.50
St. Louis	15.00 to 15.50

LOCOMOTIVE TIRES

Chicago, No. 1	18.00 to 18.50
Chicago, cut	17.50 to 18.00
St. Louis, No. 1	16.00 to 16.50

LOW PHOSPHORUS PUNCHINGS

Chicago	16.50 to 17.00
Eastern Pennsylvania	15.50 to 16.00
Pittsburgh	18.50 to 19.00

Scrap

Higher Prices Hold and Buying Increases Though Consumers Continue Conservative

ADVANCED prices of last week not only have held in the absence of general buying by consumers, but a further advance has been made, strengthening the opinion that the turn has come. What seemed a rise because of dealer activity now seems based on market conditions. Consumers continue to hold aloof but some buying is being done for current needs.

Chicago, July 6.—Iron and steel scrap prices generally have advanced and carry a shade more conviction. Dealers who have been bullish since the upturn a few weeks ago continue to look for a better market while some who have been skeptical and looked for a reaction have been partially won over. It still is true that consumer buying is not heavy but a number of sales are being made, some consumers appear to be short of material and advanced prices have applied to this business. The consumer that bought heavy melting steel at $12.50 a few weeks ago has bought at $14 and dealers have paid up to $14.25. A recent railroad offering of melting steel brought a top price of $15.40, delivered. Other railroad list prices are $16.25, tracks, for steel angle bars, $17.25, tracks for couplers and knuckles, $16, delivered, for miscellaneous rails and $17.50, delivered, for rerolling rails. In general, scrap is priced 50c to $1 higher than a week ago.

Boston, July 6.—The spread between pig iron and cast scrap is growing smaller. Several hundred tons of textile scrap sold recently at $20.40 delivered. Foreign pig iron has sold at Providence, R. I., at 20.80 delivered. Sales of heavy melting steel continue moderate at $13.25 to $13.75 delivered within the district, and at $10.25 to $10.75 shipping point for delivery in eastern Pennsylvania. Prices generally are firm.

New York, July 6.—A better tone is evident in the iron and steel scrap market though there are no large inquiries. Dealers are buying against contracts and for stock, giving the market semblance of activity. Many dealers formerly expecting further decline have started buying for stock.

Philadelphia, July 6.—Scattered buying of iron and steel scrap by consumers has aggregated a fair total the past week, mainly in cast grades. Prices tend to firmness in the absence of large supplies.

Buffalo, July 6.—Scrap values are stiffening as dealers continue to bid for tonnage which they expect to turn over this month. With railroad lists bringing $16, Buffalo, top grade heavy melting steel up fractionally and the ordinary grade has held steady.

Pittsburgh, July 6.—As usual during the week that the Pennsylvania railroad list closes its scrap bids, the scrap market is quiet here. A contributing factor this week is the holiday, which is holding back considerable trading. The Pennsylvania list involves a total of 40,630 tons, and 20 scrap locomotives and tenders "as is." Last sales of heavy melting steel reported here were on the basis of $16.50 and $16.75, creating a slightly stronger market. For specialties up to $19 is quoted and as high as $18.50 has been paid on lots of 250 to 300 tons by a few steel foundry interests.

Cincinnati, July 6.—With shipments on contracts falling off and new buying lacking iron and steel scrap is slow. Suspension of operations by many mills to make repairs is given as the cause for the prevailing situation.

Detroit, July 6.—The slight increase in iron and steel scrap prices, noted last week, the result of some buying by the Steel Company of Canada, continues to hold although buying is again nominal and tonnage being moved is limited.

Cleveland, July 6.—Buying activity is lacking in the iron and steel scrap trade. Consumers declare they are not interested in tonnage at present market prices and dealers are not inclined to shave prevailing quotations. Inquiries are rare and indications are little in the way of scrap movement will be witnessed within the next few weeks. Prices are unchanged.

St. Louis, July 6.—Iron and steel scrap continues to display considerable strength, to activity on the part of dealers. These interests are bidding up prices and purchasing freely, though all admit consumers are buying almost nothing. Railroads continue to realize excellent prices. The following lists were before the trade: Mobile & Ohio, 1000 tons; Big Four, 2200 tons; Missouri Pacific, 4300 tons; Pennsylvania 40,200 tons and 20 locomotives; Burlington, 5000 tons and Missouri, Kansas & Texas, 350 to 400 tons of 60-lb. relayers.

Birmingham, Ala., July 5.—A little improvement in the scrap market is noted and some selling in small quantities is reported. Heavy melting steel and turnings and borings are up 50 cents to $1 per ton. No. 1 cast continues as the most active old material.

Sheets

Demand Improved Slightly—Buyers Desire to Contract at Minimum Quotations

SHEET specifications and inquiries show further improvement, and prices are steadier, with a firmer tendency in black sheets. A new list of price differentials figured separately for each gage and based on actual costs and profits will be put in effect by valley mills Aug. 1, and is expected to be followed generally by other producers.

SHEET PRICES, PAGE 94

Youngstown, July 6.—During the week just closed the volume of placements and inquiry showed signs of improvement. District sheet mill operation is 70 per cent. Producers are less inclined to take black sheets below 3.05c unless on some extremely desirable classifications. Many producers are quoting this grade at 3.15c. Blue annealed remains quotable at 2.30c, base, with interest confined to meager tonnages. Galvanized requirements continue to be quoted at 4.30c to 4.40c. Practically no contracting is being done in the high-grade market. Consumers are buying in the open market and quick shipment is desired. The price of 4.20c for No. 22 gage is firmly established. About Aug. 1 a new list of price differentials figured separately for each gage and based on actual costs and profits will be placed in effect.

Boston, July 6.—Sheet sales have increased during the past week at Boston. One order for several hundred tons of black sheets is reported placed below 3.00c, Pittsburgh. A Boston manufacturer bought 150 tons of black sheets at 3.05c, Pittsburgh. Leading mills are attempting to stabilize galvanized sheets at 4.30c, Pittsburgh, but some shading of this level continues.

New York, July 6.—Sheets demand continues fair but is limited mostly to current requirements. There is some fencing between consumers and producers with respect to third quarter contracts but so far not many contracts have been signed. The reason is that consumers would contract at minimum prices whereas the mills expect that higher prices will prevail for the third quarter. In fact, in some producing quarters the opinion is expressed that prices shortly will be advanced. Blue annealed sheets generally are bringing 2.30c

base Pittsburgh, with occasional sales at 2.25c; this is equivalent to 2.59c to 2.64c delivered New York. Black sheets range from 3.00c to 3.15c base Pittsburgh, equivalent to 3.34c to 3.49c delivered New York. Galvanized usually are 4.25c to 4.30c but there is some business at 4.20c, making the full range equivalent to 4.54c to 4.64c delivered New York.

Philadelphia, July 6.—Some consumers have contracted, but the majority have not acted on third quarter needs. Black sheets are quotable at 3.00c to 3.15c, Pittsburgh; galvanized 4.20c to 4.35c. Blue annealed is the firmest of the three grades, at 2.30c to 2.40c.

Pittsburgh, July 6.—Improved specifications in sheets, has continued over into July. While in some directions business has been lost on account of lower figures quoted by certain small producers, market prices held here are 3.10c to 3.15c on black; 4.30c on galvanized, 2.30c on blue annealed, and 4.20c on full finished. Some of the lower prices on black sheets are made by mills which can furnish the tin mill product owing to the difference in the wage scale reducing their production costs. Recently increased sheet mill schedules of 65 to 70 per cent are being held although the holiday this week has cut into this measureably.

Chicago, July 6.—Sheets are beginning to reflect some of the activity in other finished lines. Specifications with the leading independent have been heavier than at any time since October. Mill schedules are now ten days to two weeks further advanced than has been the case the past quarter. Makers believe the market is rounding the corner, in some cases a month earlier than was expected, and say they are not anxious to load up at present prices, which are approximately 3.30c, Chicago, for black, 4.45c to 4.55c for galvanized and 2.45c to 2.55c for blue annealed. The 10 hot mills of Inland Steel Co. at Milwaukee are down for July, as usual.

St. Louis, July 6.—Demand for sheets holds up moderately well. Further slight improvement in galvanized material is noted, though this department still is the most backward. Prices are steady.

Cleveland, July 6.—Sheet buying in this territory is spotty. Despite low priced tonnage being bid, current prices are showing more firmness. On 28 gage black sheets 3.15c Pittsburgh is more stable but little business is active. On heavier gages such as 17 to 21, 3.00c and 3.05c Pittsburgh are more common. Mills are competing much keener for heavy gages than for light gage material. Galvanized is steady at 4.20c to 4.40c Pittsburgh. One large maker raised his minimum $2 a ton to 4.30c. Blue annealed is steady at 2.30 to 2.40c and autobody is firm at 4.20c. Pressure on the autobody price has been removed by builders for the first time in several months, buyers now being satisfied with the current level.

New York, July 6.—Orders for 500 tons of electrical sheets have been placed in the United States by the Shibaura Engineering Works of Japan. A part of the order, 3000 tons, was placed by Mitsui & Co. with the Allegheny Steel Co. and the remainder, 200 tons, was placed by Takashimaya Shoten with the United States Steel Products Co.

Tin Plate

Shipments During First Half Make Record for Some Mills

TIN PLATE PRICES, PAGE 94

Pittsburgh, July 6.—Recent prophecies concerning tin plate shipments over the first half of 1926 are borne out by actual figures, the American Sheet & Tin Plate Co., for instance, shipping more tin plate by 10 to 15 per cent during the first half this year than in any other first half in its history. Some independents too are making similar records. Orders continue to develop from time to time for shipment abroad; some domestic buyers have increased their requirements for material to make cans for fruit packs; general line can demand continues unabated, and present schedules of 80 to 85 per cent are practically assured until Aug. 31 at least.

One large independent tin plate manufacturer commenting on reports of American mills supplying tin plate to British markets stated that so far it has received only a few scattered inquiries. These do not involve more than 6000 boxes in the aggregate.

Pipe

Mill Operations Still High—Jobbers Firm on Prices—Cast Pipe Demand in Small Lots

DEMAND for tubular products maintains 90 per cent operations in pipe mills. Most buying is in small lots, but revised plans on a 475-mile gas line indicate requirements of more than 100,000 tons. Jobbers of pipe have firmed on prices in Pittsburgh. Cast pipe buying is in small lots. Competition in prices is especially keen in the Chicago district.

PIPE PRICES, PAGE 94 AND 128

New York, July 6.—Reflecting the holiday spirit that has prevailed over the past several days, trading in cast pipe has been slack. Most buying has been for private account, with municipal demand at a virtual standstill. Yonkers, N. Y., recently noted as inquiring for 500 tons has withdrawn; nevertheless, it likely will bring out new specifications later. The market meanwhile continues firm, with shops booked into September on the smaller sizes. On two or three sizes several shops are booked well beyond. Particular scarcity is noted in the 8 and 10-inch sizes.

Boston, July 6.—Private inquiry for cast iron pipe is better. Recent contracts both private and municipal have been few. Prices are unchanged with the exception of a little softening in large sizes.

Pittsburgh, July 6.—Pipe business continues steady but the chief development of interest locally is the firmer stand jobbers have taken on price. No longer are they carrying on a price war, turning their stocks over at or dangerously near their exact cost hoping to make replacements at a lower figure, but now are demanding the usual differentials over the mill figures. Their turnover has increased considerably on standard full weight merchant pipe, the mills reporting a steady shipment of the buttweld sizes. Miscellaneous oil country goods orders represent a large tonnage each week, including some line pipe specifications reaching 500 to 750 or even 1000 tons. The proposition now pending for a gas line from Amarillo, Tex. field to Kansas City takes 475 miles of 20-inch, or in excess of 100,000 tons. This is an alternative proposition to the Denver gas line recently referred to in these columns. The mill situation on line pipe is particularly tight and buyers of such large tonnages may face the situation where desired or even reasonable deliveries will not be possible despite the continued high operating rate of pipe mills, which is around 90 per cent.

Chicago, July 6.—Sales of light lots to small municipalities feature the cast iron pipe market. In another month considerable contractor business is expected to develop. With most makers sales and shipments are not far apart. American Cast Iron Pipe Co. was low bidder on 1100 tons of 8-inch for Chicago at $47.20 Chicago or $39 Birmingham. Glamorgan Foundry Co. bid $47.50, delivered Milwaukee, on about 3000 tons of 16-inch pipe for that city, with the United States company 15 cents higher; the freight rate of $8.50 from Birmingham to Milwaukee makes the Birmingham base $39. A competitive situation, according to sellers, makes this price not representative of the market. On the general run of sales $39 to $41 or $47.20 to $48.20 Chicago, is done on large business and $40 to $42, or $48.20 to $50.20, Chicago on small business in 6 to 24-inch pipe.

Birmingham, Ala., July 6.—Cast iron pipe plants with exception of the new centrifugal shop are maintaining steady production. Shipment is as steady as production. Business is

sufficient to warrant activity through the third quarter and probably remainder of year. Quotations still are $40 a ton on the material 6 inches and over.

CONTRACTS PLACED

500 tons, Sullivan, Ill., to National Cast Iron Pipe Co., in addition to 700 tons placed previously.

293 tons, 12-inch class B and C, Los Angeles, Spec. 795-C, to Grinnell Co. of the Pacific who will furnish Belgian material.

CONTRACTS PENDING

500 tons, Yonkers, N. Y., inquiry withdrawn; new specifications out later.

Hoops and Bands

Demand Steady and Diversified with Prices Firm

HOOP PRICES, PAGE 94

Pittsburgh, July 6.—A fair proportion of the hot rolled flat business now developing consists of hoop and band sizes. This demand is as diversified as ever, led by automotive and allied industries. The price is well established at 2.50c, without deviation. Operations of narrow mills vary from 75 to 80 per cent.

Iron Ore

Demand Is Better—Prices Are Steady and Higher Than Last Year

Cleveland, July 6.—A better tone is apparent in the Lake Superior iron ore market as a result of the heavy production of steel, and recent activity in pig iron. Some steelmakers have increased their ore shipping schedules, taking a larger tonnage than they anticipated at the beginning of the season. Merchant blast furnaces that have participated in the pig iron buying movement are showing more interest in the market. One interest closed during the week for 120,000 tons, and another entered the market for around 100,000 tons. Several smaller lots were closed. Prices are steady, and better than last year.

The official report on shipments of iron ore from the Lake Superior district by vessel in June shows a total of 8,770,493 tons, an increase of 812,007 tons over June 1925, and 2,557,512 tons more than in May 1926. The total movement to July this year was 14,893,138 tons, which is 3,500,047 tons less than last year in the same period.

Coke Maker Intervenes

Washington, July 6.—Announcement has been made by the interstate commerce commission that the By-Products Coke Corp. has been permitted to intervene in case 18,355 of the Virginia Pig Iron association against the Chesapeake & Ohio Railroad Co.

Bars

Heavy Bookings Extend Backlogs and Prices Are Firm—Automotive Demand Better

CHICAGO mills have accumulated the heaviest backlogs they have had since 1924. Present bookings there are sufficient to engage capacity into September. Prices are steady and the recent advance is being maintained on third quarter bookings. Automotive demand is improving and adding to mill obligations. Rail and iron bars are in better demand.

BAR PRICES, PAGE 94

Chicago, July 6.—Not since the buying movement following the presidential election of 1924 have backlogs of makers of soft steel bars been so heavy. Viewed in the aggregate, tonnage now on the books is sufficient to engage capacity into September. As usual, however, makers can extend rollings and accommodate buyers. The record half year just ended has left consumers with negligible stocks, indicating greater consumption than was apparent. Automotive and accessory demand for bars has shrunk in the past week but is relatively better here than in other markets. As an index of what might be expected, several small implement makers have specified twice the tonnage of bars they took out in the third quarter of last year. Reinforcing bar warehouses are specifying heavily. Soft steel bars are quoted at 2.10c, Chicago.

Rail steel is firmer at 2.00c, Chicago, and the delivery situation is tighter. One maker has booked 3000 tons for building work. Fence post and bed demand is seasonably heavy. The Chicago Heights maker who has been on double turn for months is well booked through this quarter. Bar iron is holding at 2.00c, with a fair volume of orders.

Boston, July 6.—Total bar sales at Boston the past week are estimated at 2000 tons or somewhat under the weekly average for the year to date. The price for third quarter delivery holds firm at 2.00c. Some spot tonnage is being tucked in at 1.90c and 1.95c.

Buffalo, July 6.—Bars are steady at 2.265c to 2.365c, Buffalo. Third quarter sales are beginning to assume good proportions and inquiry is improving.

Pittsburgh, July 6.—July is starting out well for merchant steel bar makers. The usual rate of specifying is practically the same as in June, which month in some cases brought in more tonnage than any other month so far this year. Various consuming lines are represented, chiefly automotive, through cold finishers. Tonnage carry-overs from second to third quarters are low, due to the drive made the last day or two of June to have tonnages specified. In some cases remaining tonnages were concelled. Numerous contracts have been taken for third quarter at 2.00c, the recent $2 per ton advance thus being fully established. In the case of several small users, requirements for one or two months only are being covered but larger buyers are able fully to protect themselves for the quarter.

Refined iron bar demand is fragmentary, buyers taking only small tonnages in harmony with their current needs. Prices start at 3.00c.

Cleveland, July 6.—Expiring options July 1 have been freely taken up by bar consumers in this territory and this has brought considerable additional tonnage to the mills during the past week. Some producers report the tonnage taken in that period the best of the year. Since July 1, as expected, the volume of new buying has subsided. Automobile builders have placed some important additional tonnages as well as furnishing releases on other lots which were suspended. Prices on new business are firm at 2.00c Pittsburgh or 2.19c Cleveland with occasional small lots being booked at 2.10c Pittsburgh.

Philadelphia, July 6.—Steel bar specifications in June exceeded those of May but specifications so far in July are smaller. Large makers are quoting 2.00c Pittsburgh on new business but the market is not thoroughly tested due to most consumers getting under cover before the price advance.

Cold Finished Steel

Market Strength Indicates Probable Advance with Hot Bars

Pittsburgh, July 6.—Bookings, shipments and operations in connection with cold finished bars were heavy through June. It is possible the present price of 2.50c may shortly advance $2 in harmony with the recent upward turn in hot bars. The $2.50 price represents the figure at which considerable third quarter contract business already has been booked and the level of numerous spot orders. Some prominent shippers report that June was at least 25 per cent better than May from shipping and booking standpoints. Operations average 75 per cent or slightly better. Diversity of the tonnage received is the most encouraging feature of the business, every consuming line being represented.

Steel Specialties Inc., 310 South Michigan avenue, Chicago, has increased capital from $25,000 to $50,000.

Structural Shapes

Buying Drops from June Level But Continues Above 1925—Large Tonnages Remain Pending—Prices Are Firmer

ALTHOUGH falling slightly from the June buying level, structural steel activity generally is above the summer rate of 1925. Considerable pending work remains unclosed, from 30,000 to 35,000 tons in the Pittsburgh district being in some stage of negotiation. Awards this week were limited somewhat by the holiday and consisted mostly of small lots. No new inquiries of size were noted although the general run of small requirements continues undiminished. A finished material maker in the Chicago district booked about 6000 tons of shapes for car and underframe work.

With the advent of third quarter specifying fabricators are finding mills stiffening to 2.00c, Pittsburgh equivalents.

STRUCTURAL SHAPE PRICES, PAGE 94

New York, July 6.—Although structural buying has eased off somewhat during the past few days, reflecting holiday influences, the tone of the market continues strong. Considerable work is on inquiry, and all indications point to this month, as in June, being well above normal. Plain shape prices continue to strengthen, with the 2.00c Pittsburgh, price now becoming exceedingly difficult to shade.

Effective July 1, structural iron workers here received a $2 a day increase, bringing the minimum daily wage up to $14.

Reflecting advancing prices, bookings of a large eastern shape mill in June were 40 per cent greater than for any preceding month this year. The total was considerably in excess of the monthly mill capacity. Unfilled tonnage as of July 1 was greatly larger than on the same date of the preceding month for the first time in several months.

Boston, July 6.—The effect of the summer season is being felt in building construction. Fabricating shops are more anxious for tonnage. Prices for steel erected are softer. Several railroad bridges are in the market.

Pittsburgh, July 6.—Between 30,000 and 35,000 tons of structural steel work still is pending for Pittsburgh and vicinity in several office buildings, bridges, theatres, hotels and schools. The latest bridges projected are the Sixth avenue and the California avenue spans, and according to Director of Public Works E. C. Lang the contract for the latter structure will be let Aug. 1. Awards this week were small. The open market figure on plain material is 2.00c but some contracts still are being billed at the 1.90c level.

Cleveland, July 6.—Specifications for third quarter plain structural material are coming in at an unusually active rate. Inquiries for fabricated work are small, the only activity of the week being award of 700 tons for a newspaper building in Toledo. Plain material prices are firm at 2.19c Cleveland or 2.00c Pittsburgh.

Cincinnati, July 6.—While large structural awards are few and far between, sufficient small tonnages are coming out to keep the market active. Mill representatives are waiting for action on the proposed Chesapeake & Ohio railroad bridge across the Ohio river between this city and Dayton, Ohio.

Chicago, July 6.—Structural steel awards continue fair. Pending work has come out sufficiently to balance awards. The 4200-ton Midland club should go ahead this week. One maker of finished material has booked 9000 tons, 60 per cent of it structurals, for car and underframe work. The leading fabricator has substantially all of its third quarter capacity booked, but most independents have some capacity open. The Mississippi Valley Structural Steel Co. will compete more directly in Chicago when its new fabricating shop at Melrose Park, a suburb, is completed.

Awards Compared

	Tons
Awards this week	26,150
Awards last week	27,369
Awards two weeks ago	39,631
Awards this week in 1925	18,254
Average weekly awards, June	31,927
Average weekly awards, 1926	29,165
Total awards to date, 1925	887,275
Total awards to date, 1926	784,449

CONTRACTS PLACED

11,430 tons, invloved in following projects:
- 42-story Salmon towers, Forty-second street, New York, to Post & McCord for erection, fabrication to American Bridge Co.
- 16-story loft building, G. & B. Blum, 267 West Thirty-eighth street, New York, to Paterson Bridge Co.
- Saint Teresa church, Brooklyn, N. Y., to McClintic-Marshall Co.
- Loft, 508 West Twenty-sixth street, New York, to McClintic Marshall Co.
- Pumping station, Brooklyn Union Gas Co., Brooklyn, N. Y., to McClintic-Marshall Co.
- Loft, 150 West Twenty-eighth street, New York, to McClintic-Marshall Co.
- Garage, 521 West Thirty-ninth street, New York, to Hedden Iron Construction Co.
- Apartment, 660 Park avenue, New York, to Hedden Iron Construction Co.
- Theater, Clark street, Richmond Hill, Long Island, New York, to George A. Just Co.

2800 tons, instead of 1800 tons as previously noted, B. F. Keith theater, Boston, to New England Structural Co.

2000 tons, Pythian temple, Manhattan, New York, to unnamed fabricator.

1600 tons, superstructure of bridge piers at Poughkeepsie, N. Y., to Riter-Conley Co.

1050 tons, 15-story loft building, 48 West Fifty-seventh street, New York, to Levering & Garrigues Co.

1050 tons, apartment 779 West End avenue, New York, to Eastern Bridge & Structural Co.

800 tons, apartment, 19 West Eighty-first street, New York, to Dreier Iron Works.

700 tons, building for the Blade Newspaper Publishing Co., Toledo, O., to the American Bridge Co.

700 tons, Caesar theater, West Forty-fourth street, New York, to Hedden Iron Construction Co.

560 tons, apartment, Cromwell avenue, and 167th street, New York, to Claremont Iron Works.

500 tons, Medico-Dental building, Stockton, Calif., to Palm Iron Works.

500 tons, National Bank of North Philadelphia, Philadelphia, to American Fabricated Steel Co.

400 tons, columns for apartment building at 25 East Delaware place, Chicago, to Bethlehem Steel Co.

375 tons, bridge for Northern Pacific railroad Co., near Tacoma, Wash., to American Bridge Co.

325 tons, sugar building No. 48, Corn Products Refining Co., Argo, Ill., to Vierling Steel Works.

300 tons, Leary Book store, Philadelphia, to McClintic-Marshall Co.

300 tons, ovens for Semet-Solvay Coke Co., Buffalo, to unstated fabricator.

300 tons, bridge at Millinocket, Me., to American Bridge Co.

270 tons, building, 381 Utica avenue, Brooklyn, N. Y., to Belmont Iron Works.

200 tons, bank, 105 Fifth avenue, Brooklyn, N. Y., to Joseph Gaydica Iron Works.

200 tons, wharf sheds for Lake Charles harbor and terminal district, Lake Charles, La., to unstated fabricator.

190 tons, Shippers hotel, Brawley, Calif., to Moore Drydock Co.

170 tons, residence, Himrod street and Bushwick avenue, Brooklyn, N. Y., to Easton Structural Steel Co.

155 tons, Kahn department store, Philadelphia, to McClintic-Marshall Co.

150 tons, bridge for Northern Pacific Railroad Co., Sumner, Wash., to American Bridge Co.

150 tons, buckle plates and eye bars for locks for Illinois Waterway commission, to Independent Bridge Co.

150 tons, Horn & Hardart building, Philadelphia, to McClintic-Marshall Co.

125 tons, two railroad bridges for Northern California Redwood Co., El Dorado county, Calif., to Moore Drydock Co.

100 tons, West Jersey Sand & Gravel Co. building, Philadelphia, to American Fabricated Steel Co.

100 tons, Altman store addition, New York, to Eidlitz & Ross.

100 tons, foundry, William Powell Co., Cincinnati, brass manufacturer, to Southern Ohio Iron Works.

100 tons, plant addition, Standard Ultramarine Co., Huntington, W. Va., to Huntington Iron Works.

100 tons, state armory building, Charlotte, Mich., to Continental Bridge Co.

CONTRACTS PENDING

4000 tons, Netherlands hotel, Fifty-ninth street and Fifth avenue, New York; pending.

2800 tons, Mather building, Wacker drive near Michigan avenue, Chicago, bids due this week; W. A. Illsley, 53 West Jackson boulevard, Chicago, contractor, Herbert H. Riddle, 122 South Michigan avenue, Chicago, architect.
2000 tons, convent, Tampa, Fla.; pending.
1900 tons, Adams and Franklin building, Adams and Franklin streets, Chicago, bids due this week; Alfred S. Alschuler, 28 East Jackson boulevard, Chicago, architect.
1800 tons, Pennsylvania railroad bridges; pending.
1500 tons, second section, City hall annex, Philadelphia; pending.
1200 tons, apartment for A. Campagna, Seventieth street and Fifth avenue, New York; J. E. R. Carpenter, architect. Specifications expected out shortly.
900 tons, Westinghouse Electric & Mfg. Co. building at Detroit; pending.
600 tons, Canadian Pacific railroad dock, Vancouver, B. C.; pending.
600 tons, building number two, state of West Virginia, Charleston, W. Va.; pending.
500 tons, machine shop for Norfolk & Western railroad, Williamson, W. Va.; pending.
500 tons, armory at Exposition park, Los Angeles; Minneapolis Steel & Machinery Co. low bidder.
400 tons, garage, International Motors Corp., Albany, N. Y.; pending.
400 tons, 12-story apartment building, 25 Delaware place, Chicago, Hooper & Janusch, Inc., 879 North State street, Chicago, architects.
300 tons, motion picture theater, Jerome avenue and 134th street, New York; pending.
275 tons, osteopathic hospital, Los Angeles; McClintic-Marshall Co. low bidder.
150 tons, building for the Barbers' Supply Co., Pittsburgh; bids being taken.
150 tons, freight house, Pittsburgh & Lake Erie railroad, Ellwood City, Pa.; bids being taken.
150 tons, Chadius Stephens public school building, near Pittsburgh; bids being taken for the third time.
150 tons, Dormont, Pa. school; bids being taken.
100 tons, Masonic temple, Latrobe, Pa.; bids being taken.
100 tons, Wilkinsburg, Pa., grade school; bids being taken.
100 tons, Elks club, Woodlawn, Pa.; bids being taken.
100 tons, municipal building, Monessen, Pa.; bids being taken.
100 tons, First ward school, Tarentum, Pa.; bids being taken.
Tonnage unstated, building at Chelton avenue and Greene street, Philadelphia; pending.
Tonnage unstated, church, Lincoln drive, Philadelphia; pending.
Tonnage unstated, University of Pennsylvania auditorium, Philadelphia; Frank G. Stewart, architect.

Concrete Bars

Demand Spotty—Buffalo Mills Pushed for Deliveries, But Boston Dull

SPOTTY conditions continue in the concrete bar market. Mills in the Buffalo district are deferring shipments but Boston demand is dull. Sales for the first half in Chicago were below those for the same period in 1925. Prices generally are firm. The largest award of the week involved 4000 tons for a pier at Mobile, Ala., the steel going to an Alabama mill.

REINFORCING BAR PRICES, PAGE 94

Chicago, July 6.—Sales of reinforcing bars in the first half have run slightly under that period of 1925. Sufficient work is pending to average up for the last half. Sales of rail steel bars have been unusually large, Inland Steel Co. booking 2700 tons in four jobs. A 700-ton apartment house project, for which billet bars will be used, is expected to be placed in a few days. Warehouses claim a stiffer market, but billet bars still are quotable at 2.50c to 2.60c, Chicago warehouse, and rail steel at 1.95c to 2.00c.

Boston, July 6.—Demand for concrete bars is dull. Some work in prospect has been postponed. Prices are softer. Awards of the week have been almost entirely under 100 tons. The Boston warehouse price on small lots is 2.90c.

Pittsburgh, July 6.—June was the heaviest selling month in a period of years for several concrete bar sellers here, but a dearth of large tonnage inquiry now is apparent. Many jobs now up in the greater Pittsburgh territory take but a truck-load, others a minimum carload, and others 40 or 50 tons apiece. The price is unchanged at 2.00c to 2.10c on new billet bars.

Cleveland, July 6.—Small lot buying continues to constitute most of the local activity in concrete bars. A Cleveland mill booked two 400-ton lots during the past few days. Inquiries are few. New billet bar prices continue steady at 2.19c Cleveland or 2.00c Pittsburgh, with rail steel at 1.80c to 1.90c mill. New billet bars from warehouse stocks are held at 2.60c to 3.00c Cleveland, depending upon the tonnage.

Buffalo, July 6.—Demand for reinforcing bars has been heavy since the beginning of the month and mills are being compelled to defer shipments on many orders. Difficulty is being encountered getting labor to increase production to meet sales volume. Half a dozen lots of 100 tons or more were placed here this week and as many more are pending, besides the daily run of smaller business. The mill shipment price when available is 2.265c and on stock lots 2.75c is asked.

Cincinnati, July 6.—Activity in reinforcing is more pronounced than for several weeks. Although individual orders are small, in the aggregate they represent a satisfactory volume of business. Several projects are pending which will require sizeable tonnages. Bars for shipment out of warehouse are quoted at 3.30c.

Awards Compared

	Tons
Awards this week	10,594
Awards last week	3,447
Awards two weeks ago	10,836
Awards this week in 1925	4,435
Average weekly awards, June	6,373
Average weekly awards, 1926	5,759
Total awards to date, 1925	175,065
Total awards to date, 1926	160,333

CONTRACTS PLACED

4000 tons, pier at Mobile, Ala., to Tennessee Coal, Iron & Railroad Co.; general contractors, Duloutte & Ewing, New Orleans.
1500 tons, apartment hotels at 70 East Cedar, 339 Diversey parkway and South Shore drive and East Seventieth street, Chicago, to Inland Steel Co. McNally & Quinn, 10 South LaSalle street, Chicago, architects.
1200 tons, Touraine hotel, Lake Shore drive and Schiller street, Chicago, to Inland Steel Co. Hooper & Janusch, 879 North State street, Chicago, architects.
814 tons, Seventh street viaduct, Los Angeles, to unnamed interest.
450 tons, Crosby Corp. building, Cincinnati, to Pollak Steel Co.
400 tons, superstructure work on the addition for Halle Bros. Co., Cleveland, to Bourne-Fuller Co.
400 tons, additional buildings at the Wright air field, Dayton, O., to Bourne-Fuller Co.
350 tons, subway work in New York, to Concrete Steel Co., by general contractor, John F. Cogan.
220 tons, addition to Art Metal Construction Co. plant at Jamestown, N. Y., to Truscon Steel Co.
175 tons, Pennsylvania state road work including 25 tons at Scottdale, Pa., and 150 tons at Uniontown, Pa., to the Truscon Steel Co.
175 tons, garage, Philadelphia, to McClintic-Marshall Co.
135 tons, Music Box theater, Hollywood, Calif., to unnamed interest.
125 tons, paving project, Vulcanite Paving Co., Rochester, N. Y., to a Buffalo fabricator.
120 tons, for Nash-Buffalo auto sales room, Buffalo, to unstated Buffalo fabricator.
120 tons, water conduit, Brooklyn, N. Y., to McClintic-Marshall Co., through Triest Construction Co.
110 tons, foundry, William Powell Co., Cincinnati, brass manufacturer, to Pollak Steel Co.
100 tons, Cleveland water tower, Buffalo, to Buffalo fabricator.
100 tons, almshouse, Ontario county, N. Y., to Buffalo fabricator.
100 tons, Pennsylvania state road work, to the Kalman Steel Co.

CONTRACTS PENDING

1000 tons, 40 miles Pennsylvania state road work; up for letting at Harrisburg, Pa., July 7.
300 tons, office building in the city of Pittsburgh, now in architect's hands; bids about to be asked.
160 tons, Medico-Chi building, Philadelphia; John N. Gill Construction Co. awarded general contract.
150 tons, school, Hancock and Wildey streets, Philadelphia; pending.
105 tons, Allegheny county bridge, McKeesport, Pa.; general contract award Vang Construction Co.
100 tons, two schools in Shaker Heights, Cleveland; bids in.
160 tons, junior high school, Covington, Ky.; bids in.
100 tons, Wilkinsburg, Pa. school; bids being compiled.
Tonnage unstated, office building, Asbury Park, N. J.; pending.
Tonnage unstated, two schools, Philadelphia; pending.
Tonnage unstated, additional work on Baltimore & Ohio railroad warehouses, Philadelphia, entailing $8,000,000 cost; pending.
Tonnage unstated, construction work for New York, Westchester & Boston railway at White Plains, N. Y., contractor, Dwight P. Robinson, Inc.
Tonnage unstated, construction work for New York, New Haven & Hartford railroad at Mammaroneck, N. Y., contractor, Dwight P. Robinson, Inc.
Tonnage unstated, construction work for Southern railway at Chattanooga, Tenn., contractor Dwight P. Robinson, Inc.

Rails, Cars

Few Specific Awards or Inquiries by Railroads in Market —Cars and Locomotives Dull

MISCELLANEOUS buying continues in the railroad market. About 10,000 tons of rails were placed in the Chicago district in small lots. Equipment awards and inquiries are scattered. Siam railways bought eight locomotives from a domestic builder. June freight car awards were 4285 compared with 448 in May. First half buying totaled 900 passenger cars and 40,068

RAILROAD TRACK MATERIAL PRICES, PAGE 94

New York, July 6.—Domestic freight car awards for June involved 4285 cars, as compared with 448 in May. Two contracts calling for 1000 cars each and a third calling for 900 were prominent. A comparative table follows:

June	4,285
May	448
April	4,615
March	8,995
February	12,895
January, 1926	8,850
December	16,885
November	11,685
October	11,145
September	7,905
August	2,875
July	800
June	1,835
May	6,985
1923 total	103,487
1924 total	144,425
1925 total	77,110

Current awards are devoid of large lists, with inquiry far from brisk. Locomotive buying also is restricted, with an order for eight locomotives for the Royal State Railways of Siam among a few scattered awards.

A feature of iron and steel buying at this time is the demand from the railroads for third quarter requirements. In addition to the opening of bids by the New York Central and Pennsylvania railroads, details of which are set forth elsewhere in this and last week's issues of IRON TRADE REVIEW, other roads which have taken bids on third quarter requirements are the Delaware, Lackawanna & Western, the Lehigh Valley, the Central Railroad of New Jersey and the Erie. The New York Central, in addition to the bids already opened, will open bids this week on wheels and other products.

The United States Steel Products Co., through the Mitsubishi Co., Ltd., has booked one mile of guard rail and one mile of groove rail for the municipality of Kyoto, Japan. Mitsui & Co. booked eight miles of 91-pound high T rails during the past week for the city of Tokio and placed the business with European mills. An inquiry for rails for the municipality of Osaka calls for tenders to be opened July 16.

Passenger car buying, amounting to over 900 for the first half, has been much better than last year. This business has gone far in enabling builders to meet operating expenses. With anything like an active fall, passenger car buying for this year should be substantially above the average for the past 10 years. With a start of approximately 450 cars for the first half of last year, 1925 business amounted to more than 2200 passenger cars which was above the average since the war. Practically all builders are booked up to the first of the year on this class of equipment, as compared with around Sept. 1 on freight cars.

Boston, July 6.—Railroad buying again is slack. The Maine Central is building a new wheel and car repair shop at Rigby, Me., for which some material is being bought. Electric railroads have placed a little frog and switch material.

Pittsburgh, July 6.—Three or four inquiries for track fastenings make that market more active than in several weeks. The largest is for the Norfolk & Western railroad for both spikes and tie plates. The other three include the Baltimore & Ohio, the Pennsylvania, and the Atlantic Coast Line although the latter for spikes alone probably will be placed in Tennessee. Prices are fairly firm.

Light rail orders continue small. An effort is being made to establish a $35 price but the $34 figure has not entirely disappeared.

Chicago, July 6.—A number of railroads have been placing rails in lots ranging from 1000 to 2500 tons, the aggregate of awards the past few days being 10,000 tons with some inquiry not yet satisfied. Western mills are operating full but find the carriers still pressing for deliveries.

Inquiry for track fastenings has been expanding. The Great Northern has about 3000 tons of tie plates, spikes and bolts to place in addition to a like amount just placed with its 20,000-ton rail order. The Pueblo maker being out for a change-over, it is expected that western business not ordinarily coming as far east as Chicago will be placed here.

Increasing talk is heard of a car buying movement beginning with September. One of the transcontinental roads is reported planning unusually heavy expenditures for cars and track material, with deliveries to start late this year.

Toronto, Ont., July 6.—Algoma Steel Corp., Sault Ste. Marie, Ont., has received an additional order for 10,800 tons of rails from the Canadian Pacific railway for immediate rolling, making its total orders 26,800 tons this season. Of these rails, 8800 tons will be in 100-pound sections and 2000 tons of 85-pound rails for the railway's eastern lines.

ORDERS PLACED

Baltimore & Ohio, five gasoline-electrical rail motor cars, to the Electro-Motive Co.

Georgia & Florida, 450 to 500 box cars, to American Car & Foundry Co.; 25 gondolas still pending.

Erie, 15 steel passenger coaches, to the Standard Steel Car Co.

Kendell Refining Co., Bradford, Pa., tank car, to the General American Tank Car Corp.

Temiskaming & Northern Ontario, two combination passenger and baggage gasoline-electric cars, through the Ottawa Car Co., to J. G. Brill Co.

Union Pacific, 10 gasoline-electric coaches, to the Electro-Motive Co.

Wheeling & Lake Erie, three miscellaneous gasoline-electric coaches, to the J. G. Brill Co.

LOCOMOTIVE ORDERS PLACED

Inland Steel Co., one oil-electric locomotive, to American Locomotive Co., Ingersoll-Rand Co. and General Electric Co.

Royal State Railways of Siam, eight locomotives, to the Baldwin Locomotive Works.

ORDERS PENDING

City Service Tank Line Co., five insulated tank cars; bids asked.

Crucible Steel Co., six flat cars; bids asked.

Department of city transit, Philadelphia, 50 steel passenger cars; expected to advertise for bids within a week.

Paulista Railway of Brazil, 30 passenger cars; pending.

Richmond, Fredericksburg & Potomac, one diner; pending.

South African railways, transformer car; bids asked.

LOCOMOTIVE ORDERS PENDING

Delaware & Hudson, one locomotive; contemplate making award to American Locomotive Co. and may later build six in their own shops.

New York Central, 20 locomotives; pending.

Buys Steel Warehouse

Cincinnati, July 6.—Jones & Laughlin Steel Corp., Pittsburgh, has concluded negotiations for the purchase of the Cincinnati warehouse of Bourne-Fuller Co., Cleveland. Transfer of the property to the Jones & Laughlin corporation involves the largest iron and steel warehouse in Cincinnati, buildings and contents having an estimated value of $1,000,000. The change is expected to take place July 15. Several additional units have been added to the plants since purchased in 1909 by Bourne-Fuller from the Globe Rolling Mill Co. The buildings originally housed the Weir Frog Co.

This will make four warehouses for the Jones & Laughlin corporation, the other three being at Pittsburgh, Chicago and Memphis, Tenn. Acquisition of the Cincinnati property will be another step in the development of river transportation of steel by the Pittsburgh company. The haul from the Ohio river to the warehouse is about five blocks.

The 60-ton diesel-electric locomotive which Ingersoll-Rand Co., American Locomotive Co. and General Electric Co. will build for the Inland Steel Co. for use at its Indiana Harbor, Ind., plant is said to be the first of its type for steel mill use.

Wire

Railroad Bids on Nails Show Market Firm—Larger Demand Is Showing

RECENT bids on wire and nails for third quarter for the Pennsylvania railroad showed uniformity of price and indicates strength. Figures show first half sales exceeded those of last year. Larger demand may cause enlarged production shortly as mills stocks dwindle. Jobbers are buying more freely to meet demand.

WIRE PRICES, PAGE 94

New York, July 6.—Analysis of the business of large producers indicates that bookings of wire and wire products all over the country during the first half of 1926 were about 10 per cent higher, in the daily average, than the first half of 1925. Business in June was better than in April and May and the tendency toward improvement has not lost momentum. Bolt, nut and rivet makers continue to take more wire and rods. Wood screw manufacturers, while complaining about their own sales, nevertheless are taking large quantities of raw material. Requirements of the automotive industry generally are good. Consumption of manufacturers' wire is fair. Prices are firmer than in a long time. In fact, nails are firmer than in years and 2.65c base Pittsburgh is adhered to generally.

On its opening of bids for third quarter June 29 the Pennsylvania railroad received the following figures on nails, the figures being, respectively, for carloads and less than carloads: Bethlehem Steel Co., 2.65c and 2.70c, Johnstown; Pittsburgh Steel Co., 2.65c and 2.70c, Homestead; Jones & Laughlin Steel Corp., 2.65c and 2.70c, Pittsburgh; Page Steel & Wire Co., 2.65c and 2.70c Monessen; Keystone Steel & Wire Co., 2.65c and 2.70c, Peoria; Youngstown Sheet & Tube Co., 2.65c and 2.65c, Carruthers; Crawfordsville Wire & Nail Co., 2.70c and 2.75c, Crawfordsville; Wheeling Steel Corp., 2.65c and 2.70c, Pittsburgh and Portsmouth; American Steel & Wire Co., 2.65c and 2.70c, Rankin, Farrell and Donora.

The New York Central obtained the following bids on nails for third quarter in its opening on July 1; Bethlehem Steel Co., 2.65c, Youngstown or Cleveland; Pittsburgh Steel Co., 2.65c, Youngstown; American Steel & Wire Co., 2.65c, Farrell or Cleveland; Youngstown Sheet & Tube Co., 2.65c, Youngstown; Interstate Iron & Steel Co., 2.70c, Chicago; Wheeling Steel Corp., 2.65c, Portsmouth; Jones & Laughlin Steel Corp., 2.65c, Pittsburgh.

Boston, July 6.—Wire price holds unchanged at 2.65c Worcester and 2.875c delivered Boston. Wire sales, while quiet, increased slightly during the week. Nails are unusually dull with some price shading rumored.

Pittsburgh, July 6.—Because jobbers are turning over stocks of wire, wire nails, etc., more rapidly than in May and early in June, they have had to order more frequently from mills. This trend is widespread and aggregate tonnage is large. Continued good buying will necessitate better operating schedules shortly. Business is far more satisfactory in several respects, chiefly because of the improved sentiment abroad and the general adherence to base prices, 2.50c on plain wire and 2.65c on wire nails. Manufacturers' wire orders are fairly numerous.

Chicago, July 6.—Orders to wire and wire products makers have been unusually heavy since the turn of the quarter. This prompts the hope that July shipments will keep pace with June, which in turn were a shade better than May but considerably better than last June. Makers believe last half will be better than first half, but it will take a good run of business to outstrip the last half, of 1925. Automotive specifications are light, reflecting many shutdowns. Jobbing specifications are spotty. Plain wire is unchanged at 2.55c, Chicago and western mill, and plain wire at 2.70c.

Bolts, Nuts, Rivets

Better Buying Being Done and Contracts Are Being Signed

NUT AND BOLT PRICES, PAGE 94

Pittsburgh, July 6.—Business is better in nuts, bolts and rivets, and improved sentiment on the part of purchasers has been translated into orders. While many buyers continue taking material on a hand-to-mouth basis, third quarter contracts are being signed. Jobbers are not ordering heavily, having well balanced stocks, and at present, as for some time past, most orders are going direct to mills. Operations in nuts and bolts average 70 or 75 per cent, with rivetmaking not so high. Rivet users are specifying freely but jobber business is dull. Price competition still prevails and 2.50c to 2.60c is the market range, the lower figures applying on particularly attractive business.

Philadelphia, July, 6.—Substantially all bolt and nut consumers in this territory have contracted for third quarter at 50, 10 and 10 off. Specifications are only fair. Rivet buying is moderate.

Chicago, July 6.—With the July 4 holidays and inventory time past the bolt and nut trade is assuming normal proportions. Consumers are again specifying and most makers have resumed after curtailed operations. Contracts for the third quarter have been sent out and most have been returned. Consumptive conditions are promising. Third quarter contracts exceed last year and some classes of users, as for instance implement makers, will be swinging into fall schedules shortly. The bolt and nut market is now in the seventh consecutive quarter with prices based upon 50, 10 and 10 off for large machine bolts. Rivets are unchanged.

Strip Steel

Improvement Continues and June Exceeded May's Total

STRIP PRICES, PAGE 94

Pittsburgh, July 6.—Continued improvement characterizes hot and cold rolled strip steel markets, with additional orders and liberal specifications. More orders were received in June than in May. Because operations, 70 to 75 per cent, are maintained at about the rate of incoming business and shipments also are on that scale, backlogs are not accumulating. Some interference still is experienced by cold strip sellers as regards price. While two or three weeks ago prominent shippers were encountering 3.60c the minimum now is 3.65c on desirable tonnages, against the regular market price of 3.75c. The hot strip price is firm as it has been for several months at 2.30c.

Cleveland, July 6.—Strip steel buying shows increasing volume. Although one seller in this district found sales slightly slower in the last few days compared with the preceding week, another had the best week in months. Hot rolled strip is firm at 2.30c on wide and 2.50c on narrow, no weakness being evident. On cold-finished strip, small contracts, or the general run of business, is moving at 3.75c Pittsburgh. On large and attractive tonnages 3.60c applies.

New England Fabricators Plan Organization

New England fabricators intend to organize along the lines adopted some months ago by fabricators in greater New York. A meeting to this end was held at Springfield, Mass., last week, where Charles Fitts of the New England Structural Co., Boston, was appointed chairman with authority to create a committee, which in turn is to complete plans of the organization. A second meeting will be held shortly.

The New York organization, known as the Structural Steel Board of Trade of New York, has adopted certain innovations. Builders and architects are urged to go to independent steel engineers for their designs. The sentiment of the meeting at Springfield favored adopting similar regulations governing the New England organization.

Nonferrous Metals

Buying Continues Retarted But Market Is Expected to Develop More Life—Domestic Trading Holding Up Well

Prices of the Week, Cents a Pound

	Copper: Electro delivered	Copper: Lake delivered	Copper: Casting refinery	Spot Straits Tin, N. Y.	Lead New York	Lead East St. Louis	Zinc St. Louis	98-99% Aluminum	Spot Antimony	Ingot Nickel
June 30	13.87½	14.00	13.40	61.50	8.25	8.07½	7.20	27.00	13.37½	35.00
July 1	13.87½	14.00	13.40	61.75	8.25	8.07½	7.20	27.00	13.25	35.00
July 2	13.87½	14.00	13.40	61.75	8.25	8.07½	7.20	27.00	14.00	35.00
Holidays										
July 6	13.87½	14.00	13.45	62.50	8.27½	8.10	7.22½	27.00	14.00	35.00

NEW YORK, July 6.—With the holiday passed, the metal markets are expected to show little more life. No boom is looked for, especially at this season, and the taking of inventories and closing for repairs in some shops, may retard buying a while longer and slow down consumption. In the past week, however, it has been a frequent expression in the market that various concerns would not take any action on pending deals until after the Fourth.

Domestic trade in many lines is holding up better than had been expected, and this is encouraging to the metal markets. Of similar influence is the gradual improvement in Germany, but in England and France the conditions are not encouraging to any market.

Copper—Buying of copper has been unusually light the past week, a small amount of business being done on basis of 13.87½c Connecticut and 14.00c Midwest. Producers are booked nearly full for July and have some business booked for August, with a little for September. Similarly, consumers are well covered for a short period and see no reason to venture much into the future. The result is that though offerings of metal are light, when they appear they frequently are difficult to turn over. Copper and brass ingot and scrap freight rates were scheduled for an increase over part of the East and the Midwest on July 1, but on the previous day, on the petition of several producers and secondary interests, the new rates were suspended until Oct. 29, and meanwhile hearings are to be held. It is a new case now, as it no longer is a question whether rates should be increased, but whether the roads were making their new schedules conform with the ruling of the interstate commerce commission.

Tin—Buying by consumers has been moderate in the past week but use continues large. June statistics showed the largest domestic shipments ever made in that month, 6900 tons. In the half year domestic shipments were 40,115 tons, compared with 39,200 tons a year ago. Deliveries in Europe also were large and the world visible supply was cut. Prices are strong, but the spot situation is not quite so stringent and spot now is only about ¾-cent higher than futures.

Zinc—Quietness has been unusually prevalent the past week, but prime western has held unusually steady, at 7.20c East St. Louis, partly because smelters are booked for the time being and partly because of the prospect of continued strong ore market. The foreign market has been fairly strong and that has had a sentimental influence, though no export business is going except some ore and slab from ore smelted in bond. In turn the foreign market reports sentimental influence from here, but it has some other factors that offset slack consumption in England.

Lead—Steady prices have ruled the past week and as smelters are so well sold for July and early August that offerings are exceedingly limited and generally well held, the market might be called firm. Prompt sometimes commands a premium. Not much new buying has been done the past week.

Aluminum—Some changes have been made in the designations of the grades of virgin domestic aluminum, but prices are unchanged. Buying, especially for contract, is light.

It is interesting to note that nonferrous metals are rather quiet at a time when buying of pig iron is unusually large. However, it must be recalled that buying of these metals was more active than in some time, in the first half of June. Rolled and drawn metal product prices remain unchanged.

Mill Products

Base prices cents per pound, f.o.b. mill

SHEETS	
High brass	18.87½
Copper, hot rolled	22.50
Zinc, (100-pound base)	11.25
Lead full sheets (cut ¼c more)	12.00 to 12.50
Aluminum, bright flat, up to 10 gage	37.50
SEAMLESS TUBES	
High brass	23.50
Copper	24.25
RODS	
High brass (round ⅝ to 2½-inch)	16.62½
Naval brass	19.37½
WIRE	
Copper, small lots	16.00
High brass	19.37½

Old Metals

Dealers' buying prices, cents per pound

HEAVY RED BRASS	
New York	8.75 to 9.00
Chicago	9.00
Cleveland	8.75 to 9.00
HEAVY YELLOW BRASS	
Chicago	7.50 to 7.75
Cleveland	7.00 to 7.25
ZINC	
New York	4.25
Cleveland	4.75 to 5.00
HEAVY COPPER AND WIRE	
New York	11.50 to 11.75
Chicago	10.50 to 11.00
Cleveland	10.75 to 11.00
RED BRASS BORINGS	
New York	8.25 to 8.50
YELLOW BRASS TUBING	
Cleveland	7.00 to 7.25
LIGHT COPPER	
New York	9.50 to 9.75
Chicago	9.25 to 9.50
Cleveland	9.25 to 9.50
LIGHT BRASS	
Chicago	7.00 to 7.25
Cleveland	6.00 to 6.25
ALUMINUM	
Clippings	21.00 to 22.00
Borings, Cleveland	13.00 to 13.50
Cast	17.00 to 18.00

Secondary Metals

Remelt aluminum No. 12	23.00 to 24.00
Brass ingot, 85-5-5-5	11.50 to 11.75

Coke By-Products

Distillate Demand Active—Prices Strong—Sulphate Market Omet

New York, July 6.—Brisk demand prevails for light oil distillates, particularly for the lacquer industry. Prices are strong. Pure and 90 per cent benzols are quoted at 25 cents, works, in tanks and 30 cents, in drums; solvent naphtha and toluol, 35 cents in tanks and 40 cents in drums; commercial xylol, 36 cents in tanks and 41 cents in drums.

Sulphate of ammonia continues quiet, the fertilizer industry not having come into the market and the exporters showing little interest. Prices are nominally unchanged at the recently established levels of $2.45 to $2.50, delivered, for material for domestic account and $2.45 to $2.50, port, for material in double bags for export. Seasonal buying by the fertilizer industry, appears close at hand.

Coke Oven By-Products

Per Gallon at Producers' Plants in Tank Lots

	Spot	Contract
Pure benzol	$0.25	
90 per cent benzol	0.25	
Toluol	0.35	
Solvent naphtha	0.35	(nominal)
Commercial xylol	0.36	(nominal)
Phenol	0.22	0.22

Per Pound at Producers' Plants

Naphthalene flakes	0.06½ to 0.07
Naphthalene balls	0.07½ to 0.08

Per 100 Pounds Delivered

Sulphate of ammonia	2.47½	

Warehouse

Holidays Cut Down Week's Total Sales But Daily Average Holds Up—Sheet Prices Reduced at New York

ALTHOUGH the weekly sales total dropped for most warehouses due to the two and in some places three day holiday, daily bookings are holding to the high rate of June. Prices generally are firm with the exception of a reduction of $4 a ton in black and galvanized sheets at New York.

June business by Detroit warehouses was considerably in excess of that during the same month of 1925. Operators look for some increase in July.

Featuring the New York iron and steel warehouse market is a $4 reduction in black and galvanized sheets by leading jobbers. The market now stands on black sheets at 4.30c in less than 25-bundle lots and 4.15c in 25-bundle lots or over; on galvanized sheets at 5.30c in less than 50-bundle lots and 5.15c on over that amount. This revision follows a further easing off at the mills. Trading generally has been somewhat easier the holiday having an influence.

Demand at Pittsburgh still is at a high mark and is well diversified. Prices show no change from the level of several months past.

Buffalo warehouses foresee a continuation of the steady business of the first half and note a tendency to buy in increasing quantities. Mill service on some materials has slowed up to an extent which is increasing warehouse sales.

Warehouses in Cincinnati report a fair volume of orders, particularly for reinforcing bars and structurals. Blue annealed sheets again have slumped off in demand and the same is true of cold-rolled products. Buying in general is on a 30-day basis.

Chicago warehouse business shows no abatement from the substantial condition it has been in for weeks. Some shading still exists on wire products such as nails.

Philadelphia jobbers report business well maintained in the first week of July. Prices are firm at the quoted ranges.

Accumulation of two day's mail over the holidays make demand in the first part of this week unusually good for Cleveland jobbers. Buying is slightly above the June rate in most cases. Weakness has developed again in galvanized sheets, although large jobbers refuse to shade 5.00c to meet competition. Orders are numerous but tonnages small.

Quotations in Cents Per Pound at Leading Market Centers

STEEL BARS

Boston	3.265c
Buffalo	3.30c
Chicago	3.00c
Cincinnati	3.30c
Cleveland	3.00c
Detroit	3.15c
Ft. Worth	3.90c
Los Angeles	3.20c
New York	3.24c
Philadelphia	3.00c to 3.20c
Pittsburgh	2.90c
Portland	3.00c
San Francisco	3.30c
Seattle	3.25c
St. Louis	3.15c
St. Paul	3.25c
Tulsa	4.06c

IRON BARS

Boston	3.265c
Buffalo	3.30c
Chicago	3.00c
Cincinnati	3.30c
Detroit	3.15c
Ft. Worth	3.90c
New York	3.24c
Philadelphia	3.00c to 3.20c
St. Louis	3.15c
Tulsa	4.06c

REINFORCING BARS

Boston	3.265c to 3.50c
Buffalo	3.30c
Chicago, billet	2.50c to 2.60c
Chicago, rail steel	1.95c to 2.00c
Cincinnati	3.30c
Cleveland	2.60c to 3.00c
Detroit	3.15c
Ft. Worth	3.75c
Los Angeles, C.L.	3.05c
Los Angeles, L. C. L.	3.30c
New York	3.15c
Philadelphia	3.15c
Pittsburgh	2.50c to 2.60c
San Francisco, C. L.	3.35c
San Francisco, L. C. L.	3.80c
Seattle	3.25c
St. Louis	3.15c
Tulsa	4.06c
Youngstown	2.50c to 2.60c

STANDARD STRUCTURAL SHAPES

Boston	3.365c
Buffalo	3.40c
Chicago	3.10c
Cincinnati	3.40c
Cleveland	3.00c
Detroit	3.25c
Ft. Worth	4.50c
Los Angeles	3.20c
New York	3.34c
Philadelphia	2.70c to 3.00c
Pittsburgh	3.00c
Portland	3.10c
San Francisco	3.30c
Seattle	3.35c
St. Louis	3.25c
St. Paul	3.35c
Tulsa	4.16c

PLATES

Boston	3.365c
Buffalo	3.40c
Chicago	3.10c
Cincinnati	3.40c
Cleveland, ¼-inch and thicker	3.00c
Cleveland, 3/16-inch	3.225c
Detroit	3.25c
Detroit, 3/16-inch	3.45c
Ft. Worth	4.50c
Los Angeles	3.20c
New York (sheared and universal)	3.34c
New York (floor)	5.25c
Philadelphia	2.70c to 3.00c
Philadelphia, 3/16-inch	2.90c to 3.20c
Pittsburgh	3.00c
Portland	3.25c
San Francisco	3.30c
Seattle	3.25c
St. Louis	3.25c
St. Paul	3.25c
Tulsa	4.16c

NO. 10 BLUE ANNEALED SHEETS

Boston 3/16-inch	3.915c
Buffalo	3.80c
Chicago	3.50c
Cincinnati	3.60c
Cleveland	3.15c
Detroit	3.65c
Los Angeles	3.75c
New York	3.89c
Portland	4.25c
Philadelphia	3.40c
San Francisco	3.75c
Seattle	4.25c
St. Louis	3.60c
St. Paul	3.75c
Tulsa	4.05c to 4.56c

NO 28 BLACK SHEETS

Boston	5.25c
Buffalo	4.45c
Chicago	4.10c
Cincinnati	4.55c
Cleveland	3.85c
Detroit	4.25c
Ft. Worth	5.50c
Los Angeles	4.75c
New York	4.15c to 4.30c
Philadelphia	4.35c
Portland	5.25c
San Francisco	4.75c
Seattle	5.25c
St. Louis	4.60c
St. Paul	4.35c
Tulsa	5.00c to 5.16c

NO. 28 GALVANIZED SHEETS

Boston	6.25c
Buffalo	5.60c
Chicago	5.25c
Cincinnati	5.65c
Cleveland	5.00c
Detroit	5.50c
Ft. Worth	6.25c
Los Angeles (corr. 28 ga.)	6.00c
New York	5.15c to 5.30c
Philadelphia	5.55c
Portland	6.25c
San Francisco	6.00c
Seattle	6.25c
St. Louis	5.70c
St. Paul	5.60c
Tulsa	6.00c to 6.31c

BANDS

Boston	4.015c
Buffalo	4.05c
Chicago	3.65c
Cincinnati	3.95c
Cleveland	3.65c
Detroit	3.80c
Ft. Worth	4.65c
Los Angeles	4.05c
New York	3.99c
Philadelphia	3.75c to 3.90c
Pittsburgh	3.60c
Portland	4.25c
San Francisco	4.15c
Seattle	4.25c
St. Paul	3.90c
Tulsa	4.71c

HOOPS

Boston	5.50c
Buffalo	4.05c
Chicago	4.15c
Cleveland	3.65c
Detroit	4.30c
New York	4.49c
Philadelphia	4.00c to 4.25c
Pittsburgh	3.60c
Seattle	5.00c
St. Paul	4.40c

COLD FINISHED STEEL

	Rounds and hexagons	Flats and squares
Boston	4.05c	4.55c
Buffalo	3.90c	4.45c
Chicago	3.60c	4.10c
Cincinnati	3.85c	4.35c
Cleveland	3.90c	4.40c
Detroit	3.85c	4.35c
Los Angeles	5.25c*	.....
New York	4.00c	4.50c
Philadelphia	4.00c	4.50c
Pittsburgh	3.60c	4.10c
Portland	5.00c*	.....
San Francisco	4.25c*	.....
Seattle	5.00c*	.....
St. Paul	3.85c	.....
Tulsa	4.66c	5.16c

*Rounds only.

COLD ROLLED STRIP

Boston, 0.100 inch, 500 lbs. lots	6.15 to 6.30c
Buffalo	6.35c
Chicago	6.25c
Cincinnati	7.15c
Cleveland, over 500 lb. lots	5.95c
Detroit	6.20c
New York	6.25c
Philadelphia	6.25c
Pittsburgh	6.30c

FOREIGN IRON AND STEEL

New York duty paid

Swedish, hollow drill steel	15.00c
Swedish iron bars round	6.75c
Flats and squares	7.00c

WELDED PIPE

Discounts from warehouse, New York City Standard Steel Pipe

WROUGHT STEEL PIPE

	Black	Galvanized
⅛-inch butt	—28	+21
¼ to ⅜-inch butt	—36	— 3
½-inch butt	—46	—29
¾-inch butt	—51	—37
1 to 3-inch butt	—53	—39
2-inch lap	—40	—22
2½ to 6-inch lap	—48	—35
7 and 8-inch lap	—44	—17
9 and 10-inch lap	—38	—14
11 and 12-inch lap	—37	—12

WROUGHT IRON PIPE

	Black	Galvanized
¼ to ⅜-inch butt	+44%	+78%
½-inch butt	— 4	+19
¾-inch butt	—1	+ 9
1 to 1½-inch butt	—14	+ 6
2-inch lap	— 5	+14
2½-inch lap	— 9	+ 6
3 to 6-inch lap	— 3	+ 6
7 to 12-inch lap	— 3	+16

Coast Buying Holds Well

Strike and Foreign Material Causes Some Decline of Tonnage for First Half Compared with 1925—Market Quiet

(By Air Mail)

SAN FRANCISCO, July 3.—With the exception of one or two fair sized awards there is little of interest in the Coast markets for iron and steel products. The holiday has much to do with the quiet state of the market this week. Despite slowing down of business during the past month or two more tonnage was sold in the first half of this year than in the first half of last year. The outlook for the remainder of the year is encouraging.

Pig Iron and Coke

Sales and inquiries for pig iron and coke have involved small spot lots only. Little improvement is noted in foundry operations. Stocks in foundry yards are sufficient to care for present demand. During the week 200 tons of India iron arrived in San Francisco to apply against contracts placed some time ago. Prices remain unchanged.

Coast Pig Iron Prices

Utah basic	$26.00 to 27.00
Utah foundry	26.00 to 27.00
*English (2.75 to 3.25 sil.)	25.00
*German	23.50
*Belgian	22.00
*Indian	25.00
*Dutch	22.00

*C.i.f. duty paid.

Bars, Plates and Shapes

Demand for merchant bars continues light, with small orders involving numerous sizes comprising the bulk of the business placed. Concrete bar awards this week totaled 1000 tons, including 800 tons for the Seventh street viaduct in Los Angeles and 135 tons for a theater in Hollywood. Awards during first half dropped considerably below those for the corresponding period of 1925. This is due partly to the strike situation in and around San Francisco and partly to the fact that the total importation of foreign material so far this year has totaled a round tonnage. During first half of 1925 awards reported weekly by IRON TRADE REVIEW, aggregated 35,000 tons as compared with 19,000 tons for the first half of 1926.

During the past week only one award of plates was reported. This involved 130 tons for a steel tank for Los Angeles, secured by the Western Pipe & Steel Co. Plates awards during the first half of 1926, as reported each week in IRON TRADE REVIEW, total 47,000 tons and were considerably heavier than those for the first half of 1925 which aggregated 37,000 tons. Only three inquiries are current, 3000 tons for ferry boats for the Southern Pacific Co., 1450 tons for a pipe-line at La Mesa, Calif. and 400 tons for tank work for the Southern Pacific Co. in San Francisco. Prices are firm at 2.25c c.i.f. as a minimum on desirable lots with 2.30c applying generally.

Awards of structural steel for the first half of 1926, as reported each week in IRON TRADE REVIEW, exceeded 70,000 tons, compared with 76,000 tons for the corresponding period in 1925. A large tonnage in one San Francisco district has been held up during the past two or three months due to the strike. If this tonnage had been placed as scheduled the total for the first half of this year would have exceeded by far that for 1925. Awards this week aggregated over 1300 tons and included 500 tons for the Medico-Dental building at Stockton, Calif., placed with the Palm Iron Work and 190 tons for the Shippers Hotel at Brawley, Calif., secured by the Moore Drydock Co. Pending business is in excess of 15,000 tons. Prices are firm at 2.35c c.i.fi

Other Finished Material

Cast iron pipe awards this week included only one involving over 100 tons. Grinnell Co. booked 293 tons for Los Angeles and will furnish foreign material. Pending business is of light proportions, less than 1000 tons being up for figures. Awards during the first half of 1926, as reported each week in IRON TRADE REVIEW, fell below those for the first half of 1925. The figures are as follows; first half 1925 44,000 tons, first half 1926 36,000 tons. Demand for standard pipe is fair, though few large inquiries are up for figures.

Consumers of sheets are displaying little interest in third quarter requirements and current bookings have been small, fill-in lots. Prices are not firm, though most producers are trying to maintain the present Pittsburgh levels.

Northwest Trade Light

SEATTLE, July 1.—Inquiry for iron and steel products appears to be marking time. General building is well sustained in the Northwest, June figures apparently being in excess of normal. In Seattle fewer permits have been issued for large building but residence construction continues in large volume. Contract for the $375,000 6-story reinforced concrete Ranke building, Seattle, was awarded this week. Several large theater projects are pending in Seattle. Building at Portland continues quite active.

Pig Iron and Coke

There is little interest. Stocks on hand are fairly large and buying is limited. Prices of imported and domestic iron are unchanged. The same conditions are true of the coke market.

Bars, Plates and Shapes

Mill representatives state that there is little inquiry and business is dull. However, the market appears firm and there is every indication of renewed activity. Bars and shapes are unchanged at 2.35c while plates are holding their own at 2.30c. The local steel mill is on the same operations as for several months. No large bar inquiries are pending, business being confined to small tonnages. No awards over 100 tons have been announced here during the week.

Light plates are reported in fair demand but no large contracts are pending. It is reported a local company has had plans drawn for a steel auto ferry which will call for about 400 tons of plates and structurals.

Fabricating shops are busy. No large awards have been made during the week. The new Canadian Pacific railroad dock at Vancouver, B. C., will require about 600 tons of structurals and local interests are bidding. It is not known when the contract will be let. Eighty tons for an overhead crossing for the Pacific Traction Co. near Seattle is still pending. H. W. Pohlman, Tacoma, was low bidder for the general contract at $21,098.

Finished Materials

Wholesale jobbers state that June turnover was practically the same as May. Conditions generally are satisfactory although the trade is buying from hand to mouth, forward business being lacking. Prices are unchanged. Sheets are not moving in larger volume although prices were cut 25 cents here two weeks ago to place the jobbing price on a par with the mills.

Old Materials

Steel scrap is steady at $10.50 and $11 gross which is the going price at the local mill. However, exporters are willing to pay up to $12 for choice materials, Japanese buyers showing continued interest. No. 1 cast iron scrap is unchanged at $16.50 gross with little volume of trade.

Denies Foreign Interest

New York, July 6.—Judge E. H. Gary, chairman of the United States Steel Corp., has denied reports that his corporation has any interest in United Steel Works Corp. of Germany. The Steel corporation has no interest, direct or indirect, Mr. Gary emphasized.

Receivership Decided on For Dominion Steel

At the annual meeting of the shareholders of the British Empire Steel Corp. in Montreal on June 30, President Roy M. Wolvin suggested the appointment of a receiver for the Dominion Iron & Steel Co., one of the constituent companies of the corporation. He stated that this step was recommended in the best interests of the industry so as to conserve the working capital of the company, to discontinue bond payments and to protect the interests of all concerned.

The earnings of the company's plant at Sydney, Nova Scotia, were practically nil for last year, owing to the miners' strike. Discussing the affairs of the Nova Scotia Steel & Coal Co., another subsidiary, he said that bond and debenture interest due July 1 would be postponed. Until the tariff was properly adjusted there could not be prosperity in the coal, iron and steel industry in Nova Scotia.

No new ships could be profitably constructed at the Halifax shipyards owned by the corporation because it had not been able to meet the lower European prices. The old board of directors was re-elected. The recommendation of the directors for the appointment of a receiver for the Dominion of the Dominion Iron & Steel Co. was adopted.

Otis Steel Pays Up Back Dividends

Stockholders and directors of the Otis Steel Co. have given final approval of the refinancing plan of the company which provides for the payment to stockholders of five years accumulation of dividends on the preferred shares. The company will pay the bulk of the accrued dividends in a new issue of prior preference stock, together with $1.75 a share in cash. Over 75 per cent of the stockholders of the company in number and 85 per cent of the amount of stock have approved the plan.

Under the new program of recapitalization present preferred stockholders will be entitled to surrender their stock and receive 1.33¼ shares of new prior preference stock paying 7 per cent dividend for every one share of preferred stock now held. The cash disbursement of $1.75 a share represents the dividend which has elapsed since the plan was first announced to stockholders some three months ago.

Following the refinancing the company's debt with $12,000,000 first mortgage bonds announced last March, the approval of the recapitalization plan is the final step in putting the company again on a dividend basis.

In a booklet just issued by the Union Trust Co., Cleveland, the return of the Otis Steel Co. to a position of renewed prosperity and increased profits is described as one of the most notable achievements in the recent history of the iron and steel industry in the Cleveland district. The booklet says:

"The turn in the tide of the affairs of the company came early in 1925 when the present management assumed the reins of control. Plans for plant rehabilitation have been pushed, more efficient methods have been introduced, and economies in production have been vigorously applied. The results are that costs have been cut, the output of men and machines has been speeded up, and the company now is able to write its profit and loss account in black ink.

"During the first three months of 1926 the company earned nearly 90 per cent of the amount necessary to pay the annual dividends on the new preferred stock. During the first quarter also the output of finished steel of the company climbed to a new high peak, marking a gain over the production of the first quarter of 1925 of 24 per cent."

Enter Pleas in Malleable Castings Case

As a result of entering formal pleas, fines of $3000 and costs have been assessed by the federal court at Cleveland against Stanley G. Flagg & Co., Inc., Philadelphia and the Marion Malleable Iron Works, Marion, Ind. A. E. Shaw, an official of the Stanley G. Flagg & Co., Inc. and Edward F. Leigh of the Marion Malleable Iron Works also submitted to fines of $3000 and costs. These orders, which were entered by Judge D. C. Westenhaver, grow out of the action in the United States courts which has been pending for some time in connection with the commercial operations of certain producers of malleable iron castings.

Pig Iron Buying Still in Good Volume

(*Concluded from Page* 95)

among four producers, and covering third and fourth quarters. Of this total, around 100,000 tons has been purchased by melters in Cleveland and suburbs. The Westinghouse Electric & Mfg. Co. placed several thousand tons for Cleveland, for third quarter during the past week. The General Electric Co. is again in the market for various plants, for the fourth quarter. It purchased around 10,000 tons recently for third quarter. Furnace interests say that never before in the history of the American pig iron market has so much iron been contracted for with so little fluctuation of price as during the last five weeks. The market now, however, shows indications of strengthening. Cleveland furnaces are holding for $18.50 base, furnace, for outside delivery, and are not interested in fourth quarter business at this figure. The local market continues quotable at $19, base, furnace, for delivery in the 50-cent switching area, for third quarter.

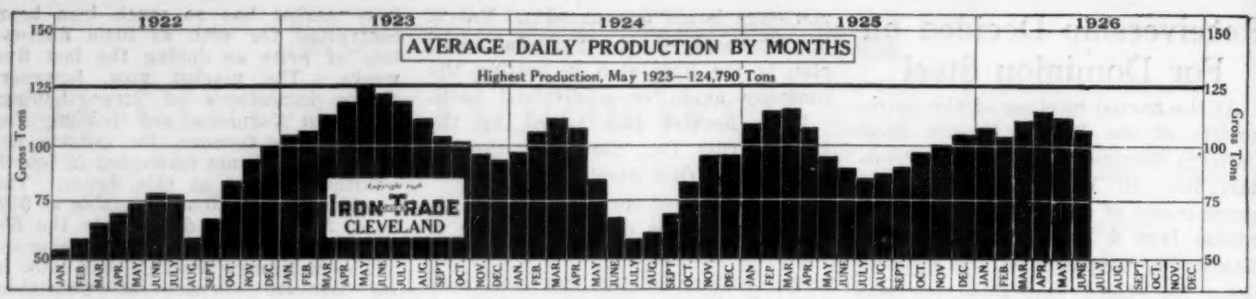
The McKinney Steel Co. will blow in its Genesee furnace at Charlotte, N. Y., about Aug. 1.

Cincinnati, July 6.—Interest in the pig iron market here, has been stimulated by the purchase of 1000 tons of 7 to 8 per cent silvery iron by the Saginaw Products Co., Saginaw, Mich. The order which was booked by local seller, specifies shipment over the balance of the year. The Monitor Furnace Co., Cincinnati, has closed for 2000 tons of northern foundry for third quarter. Inquiry pending aggregates close to 4000 tons. The Globe Stove & Range Co., Kokomo Ind., is inquiring for 1000 tons of No. 2. foundry for last half, while the National Cash Register Co., Dayton, O. wants 500 tons for northern for third quarter. A sale of 150 tons of charcoal iron, also was including in the week's transactions. Northern iron continues to be quoted at $19.50, Ironton, and southern at $21, Birmingham. Reports are current that silvery iron prices are being shaded, but this could not be verified.

Chicago, July 6.—The buying wave in northern iron has rolled up a total here over 300,000 tons with considerable inquiry still current. Probably a third of this tonnage represents last half requirements indicating a change from short buying. Most large melters now are covered. Demand for malleable is somewhat less pronounced than for No. 2 foundry. Heavy shipments of foundry coke denote a continuing melt. Some foundries on automotive work are slowing down. Foundries on railroad work expect a revival this quarter. One foundry on plumbing supplies reports production held back due to a shortage of labor. The market for malleable and No. 2 foundry iron is $21, Chicago furnace, with spot sales at $21.50. Charcoal iron sales total 700 tons. Low phosphorus iron is quoted $29.50 to $30, delivered, with sales of several carloads. Two hundred tons of silveries also were placed during the week.

St. Louis, July 6.—While pig iron requirements were fairly well satisfied in the recent buying movement, there still is considerable activity, and a good volume of sales. Recent sales total approximately 4500 tons, including all grades. Inquiries pending total 6000 to 8000 tons, including 500 tons for a specialty maker at Quincy, and 500 to 1000 tons for a Belville melter. Of the latest sales reported, about 3500 tons were closed by the St. Louis Coke & Iron Co. Prices are unchanged.

Birmingham, Ala., July 5.—Alabama pig iron manufacturers have sold well into the third quarter, and many inquiries still are in hand with prospects of good sales. Quotations are firm at $21 for No. 2 foundry.



June Iron Output Continues To Drop

AS INDICATED by the estimate published in last week's issue of IRON TRADE REVIEW, production of coke pig iron in June declined to the lowest level since February and the second lowest for this year. With the blowing out of several furnaces during the month, stack operations fell back to the basis of last November.

Total production of pig iron in June was 3,232,478 gross tons, or 245,342 tons less than the 3,477,820 tons of May. June had but 30 days, against 31 in the preceding month. On an average daily basis, iron was made in June at the rate of 107,749 tons per day, which compared with the 112,187-ton rate of the month before, was a loss of 4438 tons, or 3.95 per cent. This was the lowest average daily rate since February when the output was 104,423 tons per day. However, production was the best for any June since 1923 when the rate was 122,262 tons per day.

During the first half of this year, production of pig iron amounted to 19,850,913 tons and was the best first half since 1923 when the total was 20,828,401 tons. As compared with the 18,981,883 tons of 1925, production improved by 869,030 tons, or 4.57 per cent.

On the last day of June, 220 of the country's 372 serviceable blast furnaces were in production. This represented 59.1 per cent. One month ago 229 or 60.9 per cent of the country's 376 furnaces were operating. Of the merchant class 1 was blown in and 2 blown out and of the nonmerchant or steelworks class 1 was blown in and 9 blown out or banked.

As announced last week the abandonment of four more blast furnaces has reduced the country's serviceable stacks from 376 to 372. The furnaces dismantled are the two Paxton stacks of the Central Iron & Steel Co., Harrisburg, Pa., and the two Watts stacks of the Virginia Iron, Coal & Coke Co., Middlesboro, Ky.

Furnaces blown in during the month were: In Pennsylvania: Monongahela No. 4, National Tube Co. In Virginia: Reusens, Lavino Furnace Co.

Stacks blown out were: In Ohio: Cleveland No. 1, Otis Steel Co. In Pennsylvania: Coatesville A, Bethlehem Steel Co.; Palmerton No. 2, New Jersey Zinc Co.; Monongahela No. 2, National Tube Co.; one Duquesne, one Clairton and one New Castle, Carnegie Steel Co. In New York: One Lackawanna, Bethlehem Steel Co. In Maryland; Maryland D, Bethlehem Steel Co. In Alabama: Bessemer No. 4, Tennessee Coal, Iron & Railroad Co. In Tennessee: Rockdale, Tennessee Products Corp.

Active Blast Furnaces

	In blast	Total	Per Cent
June	220	372	59.1
May	229	376	60.9
April	237	376	63.0
March	235	377	62.4
February	223	382	58.5
January	225	385	58.5

MONTHLY PRODUCTION

	1926	1925	1924
January	3,319,789	3,372,207	3,015,489
February	2,923,850	3,214,067	3,073,619
March	3,458,171	3,571,422	3,465,389
April	3,438,805	3,211,235	3,226,107
May	3,477,820	2,933,907	2,619,986
June	3,232,478	2,679,045	2,022,836
Total 1st half	19,850,913	18,981,883	17,423,417
July		2,665,262	1,783,457
August		2,707,171	1,882,986
September		2,725,885	2,053,617
October		3,017,889	2,461,727
November		3,023,257	2,154,979
December		3,249,057	2,956,389
Total 2nd half		17,388,521	13,653,155
Grand total	19,850,913	36,370,404	31,076,572

AVERAGE DAILY PRODUCTION

	1926	1925	1924	1923	1922
Jan.	107,089	108,781	97,273	104,136	53,090
Feb.	104,423	114,788	105,987	106,925	58,220
Mar.	111,554	115,207	111,787	113,664	65,674
Apr.	114,627	107,041	107,537	118,210	69,005
May	112,187	94,642	84,515	124,790	74,495
June	107,749	89,301	67,427	122,262	78,748
July		85,976	57,531	118,860	77,517
Aug.		87,328	60,741	111,254	58,408
Sept.		90,862	68,454	103,917	67,466
Oct.		97,351	79,419	101,375	84,827
Nov.		100,775	83,832	96,373	94,870
Dec.		104,808	95,367	93,952	99,468
Ave.	109,673	99,645	84,908	109,659	73,563

DIVISIONS OF PRODUCTION

1925	Merchant	Non-merchant	Spiegel	Ferro-manganese	Other ferro
Jan.	659,256	2,712,951	5,418	23,564	956
Feb.	661,415	2,552,652	4,910	19,796	848
Mar.	736,284	2,835,138	5,449	24,422	877
April	689,162	2,522,073	5,341	21,448	799
May	605,347	2,328,560	5,294	22,717	298
June	563,782	2,115,263	4,972	19,834	.....
July	609,741	2,055,521	5,074	16,614	.....
Aug.	588,330	2,118,841	4,940	18,818	.....
Sept.	569,219	2,156,666	5,162	18,381	140
Oct.	606,092	2,411,797	5,071	21,472	1,544
Nov.	688,214	2,385,043	6,370	27,202	1,665
Dec.	664,681	2,584,376	7,746	25,881	1,883
Total	7,591,523	28,778,881	65,747	260,149	9,010
1926					
Jan.	724,946	2,594,843	7,746	32,924	1,607
Feb.	622,121	2,301,729	7,084	22,309	1,464
March	733,321	2,724,850	7,339	24,064	1,942
April	779,310	2,659,495	7,051	24,134	1,593
May	797,539	2,680,281	6,990	22,979	1,704
June	734,823	2,497,655	5,864	25,378	.....

JUNE PIG IRON

	No. of Stacks	No. in blast last day of month June	May	Total tonnage made Merchant	Nonmerchant	—Totals— June	May
Ohio	69	50	51	179,457	594,989	774,446	836,457
Pennsylvania	132	75	80	153,900	921,452	1,075,352	1,178,297
Alabama	34	24	25	117,173	118,239	235,412	251,985
Virginia	17	2	1	8,744	.....	8,744	8,504
New York	26	15	16	84,828	110,870	195,698	227,992
New Jersey	3	0	0	.....	.....	.....	.....
Illinois	25	17	17	105,718	222,508	328,226	336,030
Colorado	5	2	2				
Indiana	18	17	17	31,606	419,113	450,719	469,618
Maryland	6	5	6				
Wisconsin	5	2	2				
Kentucky	5	1	1				
Tennessee	13	1	2	10,479	47,108	57,587	61,293
Utah	1	1	1				
West Virginia	4	2	2				
Michigan	4	4	4				
Minnesota	3	2	2	33,642	41,410	75,052	75,971
Missouri	1	0	0				
Texas	1	0	0				
Spiegel and ferro—all states	0	0	0	9,276	21,966	31,242	31,673
Totals	372	220	229	734,823	2,497,655	3,232,478	3,477,820

"Meeting the New Competition"

FROM A STEEL PRESIDENT TO HIS EMPLOYES

By James A. Campbell

THERE has been a great change in the spirit of employes and management since I entered the steel business. At that time I believe that a majority of the men were against the company, and thought that the management was against them. The greatest change has come about in the last ten or fifteen years, during which the friendly spirit that should exist between employers and employed has developed remarkably. Both are now pretty well aware that their interests are mutual and that one cannot be prosperous unless the other is prosperous.

One thing that I have learned in my experience is that business is constantly changing, and we must be always prepared to meet these changes. Increasing competition and other conditions are constantly tending to localize markets, because we must get our business from the localities where freight rates and other conditions do not give some other manufacturer an advantage. There are many districts where we cannot sell our products in competition with others. The Birmingham district can undersell us in many lines. This is true also of the Buffalo district and the East. The freight rate on our products to the Chicago district, which means the great Northwest, is so high that we cannot ship goods from Youngstown at a profit. This brings you into competition with our Chicago plants, as well as the Chicago district plants of other manufacturers.

At one of our Chicago plants we had two tube mills which could not be profitably operated because we had to pay freight on the skelp. We planned to move them to Indiana Harbor, but the men who worked on them had homes where they were and did not want to move. They said that if they were given a chance, they would make pipe on those mills at a lower cost than it could be made at the other plant, and they have pretty nearly done this by increasing the output. You can help to keep our plants in operation in the same way, and it will be to your interest to do so.

* * *

THERE is no intention or expectation that wages will be lower. The present rate of wages should be and probably can be maintained. High wages are better for the country, although they should be better equalized in the various industries. In some industries, especially the building trades, wages are too high, because they increase the cost of living for everyone and make it harder for those who wish to own homes for themselves, as every workman should strive to do.

I have always opposed wage reductions in the steel industry, in which they are now at least as high as in any other basic industry. The high wages paid in this country can do harm in only one way, if at all. Because they keep our cost of production so high, we may suffer from importation of materials produced abroad, where wages are much lower. The government should, however, take care of this by means of the tariff. In the meantime, however, the difference between wages here and abroad makes it very hard to sell to foreign countries. We do not expect to do much foreign business, however, and will be glad, if our own markets are not taken up by goods made abroad, which have been coming in considerable quantities, especially from foreign manufacturers who can get their products to the seaboard at low cost.

One of our serious troubles is taxes. President Coolidge has set a good example on this point, but the states and municipalities have not followed it. Local taxes here are a very serious matter, as they are higher than most of our competitors have to pay and add considerably to our costs, which, as I have pointed out, must be kept down if we are to get business.

Transportation costs are too high, also. They have been raised to meet higher wages in the railroad industry, and they are now adding to the cost of living for everybody. In this matter, too, we are at a disadvantage with some of our competitors, at least so far as our Youngstown plants are concerned.

We now have shorter working hours than formerly. I was in favor of this, and urged its adoption at a meeting with the president. I am still of the opinion that it is a good thing and need not increase our costs materially if we get the right cooperation from our men. Our stockholders, whose money is invested, have been getting small returns. Some times I hear complaints from them about our small dividends, and I think that some of them may have a right to complain. But we must spend a part of their money for improvements and extension in order to make their investment safe, much as they would like to have the earnings all paid out in dividends. We have been paying holders of our common stock less than 6 per cent, and putting the rest of our earnings back into the properties. We have to do this in order to maintain a strong position and protect both our stockholders and our workmen against the possibilities of bad years, hard times and the sharp competition from our neighbors, who are spending money to improve their costs.

The past three years have seen greater development in processes, methods and machinery in the steel industry than twenty years previously. We must keep up with these developments, no matter how much it costs, or we will not be able to maintain the competitive position absolutely necessary to continued success. At a recent meeting of the National chamber of commerce in New York, figures were produced to show that, while wages generally had increased 36 per cent since 1914, production had increased 54 per cent. This will show you how other lines of industry have been meeting the situation. The figures are for American industry in general, not for the steel industry alone, in which wages and more especially production have both increased considerably more. If the amount invested in new machinery and new methods could be stated, it would be far greater than you have even suspected. Millions of dollars worth of equipment has been

Abstract of an address by the president of the Youngstown Sheet & Tube Co. at the eighth annual conference of representatives of the management and employes of the company, Youngstown, May 25.

scrapped to secure the lower costs and greater production made necessary by increasing wages and more severe competition.

Now, there is no reason for anyone to be alarmed over these conditions. They are simply the result of constant changes going on. They will not materially affect our operation or keep us from paying good wages and providing steady employment in Youngstown.

Our company has been doing fairly well, although not so well as some of our competitors. Our operations have averaged about 75 per cent as against 80 to 85 per cent for some other companies. We hope that we can continue to do as well as this at least. Perhaps when our extensions and improvements are completed, we can do even better. But there is no certainty in regard to this, and I can make no promises. I would ask you for your own sakes, to save your money and not waste it on foolish and unnecessary things. For no one knows or can know what the future has in store for us here or elsewhere.

Prospects for attractive business are good, at least this fall, and I think we shall have fairly good business through the summer. But there is nothing sure about these things, and the man who saves his money and has something laid up against the time when his earnings decrease for any reason, need not worry.

Carnegie Issues Books

Carnegie Steel Co., Pittsburgh, has just issued the first edition of a 196-page book "Structural Steel Shapes." This book contains information and tables for engineers and designers and other data pertaining to structural steel manufactured by the company. The Carnegie company also has published a booklet giving information on light-weight wrought steel wheels for freight car service.

Fall Meeting Arranged

Chicago, July 6.—The Concrete Reinforcing Steel institute, 435 North Michigan avenue, will hold its next semiannual meeting at French Lick, Ind., Sept. 13-15. Directors of the institute will meet at 10 a.m. Sept. 13 and members at 2 p m. that day. The business sessions on Sept. 14 will culminate in a banquet that evening. The final business sessions on Sept. 15 will be followed by a golf tournament.

Advertising Fact

Promoting Industrial Stabilization Experts Say

Industrial advertising has become one of the greatest forces in the nation for orderly production and distribution of goods, for good will, and for general prosperity, according to speakers at the recent convention of the National Industrial Advertising asocation, in Philadelphia.

"The industrial advertising man today works more closely with chief executives of industry," said Bennett Chapple, director of publicity, American Rolling Mill Co., Middletown, O. "Through the industrial advertising man the creation of good will within and without the organization is accomplished.

"Today the salesman's eye is on selling, the production man's eye is for production, but the industrial advertising man from his position is able to put across that intangible something in the corelation between the public and his organization.

"Through such efforts the public is shown that its good will is appreciated and that each organization is striving to maintain the confidence of the public in the products manufactured or for sale."

Thomas F. Logan, president, Lord & Thomas and Logan, called attention to the fact that the extreme yearly variation in total consumption of goods has been reduced to less than 6 per cent from the line of normal growth.

"What has brought about this wholesome stabilization of industry? he said: "I believe that there are three fundamental causes:

"1—The credit system has been standardized and stabilized as a result of the complete reform of our banking system, brought about through the operation of the federal reserve act.

"2—The interchange of goods throughout the country has been standardized and stabilized by the very remarkable improvement in the efficiency of operation of our great railroad systems.

"3—The marketing of goods to the ultimate consumers has been standardized and stabilized by scientific advertising.

"Banking, transportation and advertising of a standard never before at the service of American business, and of a standard achieved in no other country have almost overnight opened a new era of orderly production and distribution."

Other speakers included Thomas A. Mitten, Philadelphia, "Bankers' Viewpoint of Industrial Advertising in Its Relation to Management," Howard er Spohn, advertising agent, Timken Roller Bearing Co., "Distinctive Features of the Timken Campaign," W. H. Beatty vice president, Newell Emmett Co., New York, "Copy," George Morrison, advertising manager, Ingersoll-Rand Co., New York, "The Ingersoll-Rand Co.," Neil H. Borden, Harvard University, Graduate school of business administration, "The Collegiate Teaching of Industrial Marketing."

Sales of Babbitt Metal Drop in May

Washington, July 6.—Sales of babbitt metal in May dropped to 3,640,-369 pounds from 3,817,253 pounds in April, and were the smallest since November, according to reports of 27 manufacturers to the department of commerce. Total apparent consumption in May was 4,797,038 pounds, the lowest since September and consumption by producers 1,156,669 pounds. Further comparisons of sales and consumption follow:

1925	Total apparent consumption	Sales by manufacturers	Consumption by producers
May	5,081,668	4,189,558	892,110
Total (5 mos.)	26,700,174	21,237,750	5,462,424
June	5,074,966	4,085,125	898,841
July	5,184,196	3,694,386	1,489,810
August	5,441,823	4,068,706	1,373,117
September	4,621,033	3,579,780	1,041,253
October	5,550,247	4,169,870	1,380,377
November	4,954,683	3,534,026	1,420,657
December	4,878,806	3,910,160	968,646
Totals	62,405,928	48,279,803	14,126,125
1926			
January	5,152,694	3,708,383	1,444,311
February	5,139,952	3,867,710	1,272,242
March	5,860,453	4,852,805	1,007,738
April	5,229,199	3,817,253	1,411,946
May	4,797,038	3,640,369	1,156,669
Total (5 mos.)	26,179,426	19,886,520	6,292,906

Inspects St. Louis Stack

About 75 foundrymen from St. Louis and the surrounding region were guests on June 22 and 23 of the St. Louis Coke and Iron Co. On the first day the party inspected the company's new blast furnace at Granite City, which is nearing completion, and the coke ovens and by-product departments. The second day was spent in visiting local industries and places of interest in the city. The entertainment concluded with a banquet at Hotel Jefferson, with W. G. Maguire, president of the company, presiding as toastmaster.

All the steel work of the new blast furnace has been completed, and lining is now in progress. According to Mr. Maguire all construction will be finished in early September, and it is expected to have the furnace in blast sometime during that month. The new unit will have a capacity of 600 tons daily, which will bring the total daily output up to 1100 tons.

Book Honors John Scott Medal Recipients

The Norton Co., Worcester, Mass., manufacturer of grinding machines and abrasives, has published an attractive book in recognition of the achievements of two of its associates. Aldus C. Higgins and Charles H. Norton, who for their inventions have been awarded the John Scott medal. A foreword in the book explains that the medal was established by John Scott, an Edinburgh, Scotland, chemist, in 1816. By will, $4000 was deposited with the City of Philadelphia and so intrusted with the management of Dr. Franklin's legacy that the interest was laid out in premiums to be distributed among ingenious men and women who make useful inventions, no one premium to exceed $20. A copper medal accompanies the premium.

Next in the book is given a list of a few of the awards, their dates and the inventions meriting the awards. The remainder of the book is devoted to the Higgins and Norton awards. Photographs of the recipients, their inventions, certificates and medals are reproduced by halftone. The award was made to Mr. Higgins on March 13, 1914, for his electric furnace in which alundum is made commercially and to Mr. Norton on June 17, 1925 for his invention of grinding machines. Brief details concerning each invention are given.

German Steel Bounties To Be Investigated

Washington, July 6.—A complete investigation is to be made in connection with the bounty which it is alleged is paid by the Raw Steel syndicate of Dusseldorf, Germany, on German iron and steel products.

While no statement has been made by government officials it is generally understood here that the investigation will be carried on by two officials of the American government and two officials of the German government. How long the investigation will take is not known here and it will probably be some time before definite action is taken by the treasury department, owing to the fact that the matter has to be taken up with the state department.

A Spanish-English edition of industrial standards No. 36, "Standard Specifications for Structural Steel for Ships," recently has been published by the department of commerce. It was prepared in co-operation with the bureau of standards and American section of the inter-American high commission. Copies may be obtained from the government printing office, Washington, for 5 cents.

Orders Steel Towboat

Pittsburgh, July 6.—The Wheeling Steel Corp. has contracted with the Dravo Contracting Co., Neville Island, near Pittsburgh, for the construction of an all-steel stern towboat, equipped with diesel engines. It will be 138 feet long and will be completed about Jan. 1.

Buy Locomotive Works

Washington, July 6.—The supreme economic council of the Ukraine has voted to purchase in Germany the Rheinmetall Locomotive Works, which will be moved to Lugansk in the Ukraine, according to advice to the Russian information bureau. The plant is capable of turning out 500 locomotives a year, cost price is 7,500,000 marks, with a 5-year credit. The price is estimated at 45 per cent of present cost of construction.

Higher Bar Duty Ordered

Washington, July 6.—Corrugated steel bars from Belgium imported into the United States are dutiable at the rate of 3/10 cent per pound under paragraph 304 of the tariff act, according to a decision made by L. C. Andrew, assistant secretary of the treasury. The department learned that some ports were rating these steel bars as building forms at the rate of 1/5 cents per pound, while other ports were assessing them at 3/10 cents.

Employment Declines

Washington, July 6.—May employment in 211 iron and steel plants was 288,746 compared with 292,646 for April, a decrease of 1.3 per cent according to reports made to the bureau of labor statistics. The payrolls in these plants in April amounted to $9,027,093, decreasing 3 per cent to $8,760,756 in May.

What are believed to be the largest transformers ever built have just been shipped from the Pittsfield, Mass., plant of the General Electric Co. to the Great Western Power Co. in California. The shipment consisted of four transformers weighing altogether more than 1,000,000 pounds. Each transformer is 28 feet high and designed for 220,000 volts.

Honor R. W. Gillispie

A farewell dinner was tendered R. W. Gillispie June 28 at the Saucon Valley Country club, Bethlehem, Pa., by members of the sales department and other officials of Bethlehem Steel Co. prior to his severing connections to become vice president of the Jeffrey Mfg. Co., Columbus, O. About 35 were present, including E. G. Grace, president, H. E. Lewis and Quincy Bent, vice presidents, E. S. Knisely, general sales agent, and G. H. Blakeley, manager structural and plate sales department, the latter acting as toastmaster.

High compliments to Mr. Gillispie's ability and standing in the business world were paid him by Mr. Grace and Mr. Lewis. As a token of the regard of his associates in the sales department, Mr. Gillispie was presented with a fine watch and chain. Paul Mackall, who had been Mr. Gillispie's associate as assistant general sales agent since his coming to Bethlehem, made the presentation.

Expressions of regret on Mr. Gillispie's leaving were received by telegram from Charles M. Schwab and other officers of the corporation who were unable to attend the dinner.

Mr. Gillispie has served a total of 22 years with the Bethlehem interests. At the time of the acquisition of the Pennsylvania Steel Co. by Bethlehem in 1916, he, who was general manager of sales of that company, was made assistant general sales agent of the Bethlehem Steel Co. and transferred to Bethlehem. At the beginning of this year he was made assistant manager of the structural and plate sales department, which position he occupied at the time of his resignation.

Shipbuilding Decreases

Washington, July 6.—American shipyards were building or had under contract to build for private shipowners on June 1, 159 steel vessels, of 209,940 gross tons, compared with 196 steel vessels of 213,046 gross tons, on May 1.

Of these vessels the American Bridge Co., Pittsburgh, had under contract 55 vessels, of 24,400 gross tons. The Union plant of the Bethlehem Shipbuilding Corp. was building 12 vessels of 10,194 gross tons. William Cramp & Sons Ship & Engine Building Co., Philadelphia, was building six of these vessels, of 25,150 gross tons. Dravo Contracting Co., Pittsburgh, had 21 vessels, of 17,015 gross tons.

Survey New England Markets

Department of Commerce Co-operates With District's Council To Determine Best Means for Production and Distribution—Trade Experts Now at Work—"Elimination of Waste" the Mainspring

WASHINGTON, July 6.—Covering the whole New England area, a new marketing and industrial survey is being started by the department of commerce, following requests from business and industrial interests, particularly from the New England council. Dr. Julius Klein, director of the bureau of foreign and domestic commerce, says the department is co-operating with the council in studying buying habits and consumption in that area.

Several similar surveys have been under way in the last several years, having been started under the direction of the department of commerce. The bases of these surveys have been Philadelphia and Atlanta. The Philadelphia marketing survey already has been completed. The surveys are in keeping with Secretary of Commerce Hoover's drive against waste in industry. While the department realizes that markets do not lend themselves to precise measurement, it is believed facts obtained will enable the local and national distributor to measure the demand of the New England markets more accurately than now is possible.

Trade trends affecting production and distribution of merchandise will be studied to ascertain where the New England products are being sold, and whether they are being distributed in their own New England market as intensively as possible.

Basic information for gaging the present and potential marketing possibilities of the area also will be collected for the benefit of national distributors.

Facts concerning the strength and character of the New England marketing area, as reflected by local industry, commerce and agriculture, subsidiary trade areas, purchasing habits, buying power, proportion of different nationalities, incomes, occupations and other trends will be compiled.

A thorough examination of all New England industries will be made with the idea of analyzing their present difficulties in methods of manufacturing or of marketing products. Production costs also will be studied.

The question of keeping up employment steadily in place of permitting seasonable occupation to have the usual disintegrating results will receive attention. Some attention probably will be paid to the obsolescence of plants and equipment. The relation of New England to its sources of raw materials will be surveyed.

Dr. Klein's recent conferences with New England business men disclosed remarkable interest in the survey. Results of similar survey of the Philadelphia marketing area were well received by local and national traders. A study of marketing possibilities in the five southeastern states now is nearing completion and its results will be published soon.

A. Heath Onthank, a graduate of Harvard college and Harvard business school and chief of the commerce department's domestic commerce division, will supervise the work. Mr. Onthank has had much experience in this field.

John M. Hager, who has had wide experience in the domestic and foreign field in actual market analysis and economic survey work, will co-operate with Mr. Onthank in an advisory capacity. He recently made a trip around the world investigating economic conditions.

Field work of examining the general and local industrial and commercial situations in New England already has been started by Dr. C. E. Artman, a member of Mr. Onthank's staff. Mr. Artman has had extended research experience in and around New York, having had charge of an investigation of the methods of moving perishable goods to supply the population of New York and its environs in connection with the department of agriculture and the port of New York authority. Mr. Artman also has done extensive research work in the field of foreign finance. Assisting Mr. Artman in New England as marketing and industrial experts are E. F. Gerish and L. V. Alden.

Report on Pacific Coast Trade Prepared

Washington, July 6.—As a result of its close contact with the iron and steel markets of the world, the iron and steel divisioin of the department of commerce, through Marshall Teel Jones, assistant chief of the division, has prepared a comprehensive analysis showing the American iron and steel trade with the countries of the Pacific area. This analysis gives a graphic picture of the relative importance of the United States, the United Kingdom, Belgium and other countries as sources for the supply of iron and steel products to these territories.

The group of countries embraced in this report, Japan, China, the Philippines, Austria, Chile and Peru—imported a total of 2,920,597 long tons of iron and steel products during 1924, this being the latest year for which complete statistics are available. This compares with 1,884,-623 tons in 1913.

United Kingdom supplied 905,220 tons to these countries, or 24 per cent, of its total exports of iron and steel products; United States 531,544 tons, or 30 per cen tof its total; Germany 288,519 tons, or 18 per cent and Belgium 409,175, or 10 per cent. In 1913, of the total exports of iron and steel products from the United States, 14 per cent went to this region.

Japan is the leading market of the group, importing 1,628,316 tons, of which the United States supplied about 22 per cent. China is second being followed by Australia and Chile. The analysis by Mr. Jones shows that in the past few years the American exporters have been holding their own in the world's steel trade in the face of keen European competition.

This group of countries in the Pacific area contains about 28 per cent of the world's population. The increased consumption of iron and steel products in these countries as shown in the last few years, especially by China and Japan, indicates a growing field for American manufacturers and exporters, it is stated.

Mr. Jones concludes in his analysis that the best markets in the Pacific area for American manufacturers and merchants to cultivate would appear to be Japan, China, Chile and Peru, these having few, if any, tariff discriminations.

Electrical equipment at the bar mills of the Ludlum Steel Co., Watervliet, N. Y., will be changed from 40 to 60 cycles to afford increased flexibility and output.

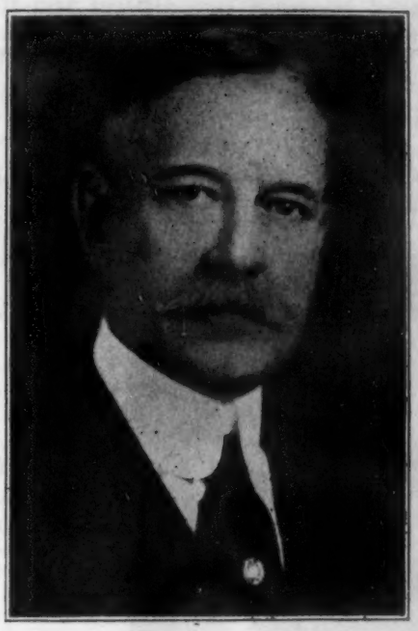
Industrial Men in the Day's News

William Bacon Schiller, Retired President of the National Tube Co.

RETIREMENT from active service concludes a career of 43 years in the iron and steel industry which carried him to high executive offices.

HIS business interests were diversified widely as were also his social and industrial affiliations. He is a member of many New York and Pittsburgh clubs.

WITHOUT advanced education his promotions were rapid and at the age of 24 he was secretary of a steel producing company. At 30 he was general manager of a blast furnace company.



RETIREMENT of William Bacon Schiller as president of the National Tube Co., Pittsburgh, in April, as announced in IRON TRADE REVIEW at that time, takes from the active list of iron and steel executives of the country one of the ablest leaders in the industry. He celebrates this week his sixty-seventh birthday. His service spans a period of 43 years in which time he rose from an obscure office to national prominence. For 24 years he served as president of the tubular products subsidiary of the United States Steel Corp.

Lack of advanced education was no handicap to Mr. Schiller. At the age of 24, when many youths of today are finishing their university training, Mr. Schiller had been employed for seven years and had risen to the office of secretary of the Brier Hill Iron & Coal Co., Youngstown, now part of the Youngstown Sheet & Tube Co. From that time until his elevation to the presidency of the National Tube Co., in August, 1902 his advancement to offices of higher responsibility was rapid and frequent.

Mr. Schiller inherited his liking for the steel industry, being the son of John G. Schiller an iron merchant. William Schiller was born in Pittsburgh July 7, 1859. He obtained his early education in the schools of Youngstown to which city his parents had moved while he was still young. In 1876 he took his first position, becoming an office boy for R. W. Hitchcock & Co. in that city. In three years he had accumulated sufficient business knowledge to become bookkeeper in the Second National bank, Youngstown. His banking experience obtained here was a valuable aid in later administrative offices. He joined the Brier Hill Iron & Coal Co. as a bookkeeper in 1883 and after three month's service was made secretary.

He left this company in 1886 to become treasurer and general manager of the Youngstown Coke Co., Ltd., and the Bessemer Limestone Co. In August, 1889 he left to fill the position of general manager for the Monongahela Furnace Co. at McKeesport, Pa. When this company consolidated with the National Tube Works, Mr. Schiller was placed in charge of the blast furnaces and steel works. In 1889 when the National Tube Co. was organized, Mr. Schiller became manager of the national department, being advanced to the office of first vice president in March, 1901 to succeed Col. F. J. Hearne who was made president. When Colonel Hearne retired the next year, Mr. Schiller succeeded him as president.

In addition to his National Tube Co. affiliation, Mr. Schiller was president of the Gary Tube Co., Gary, Ind., director of the Union Trust Co., Mellon National bank, Union Savings bank, National Union Fire Insurance Co., H. C. Frick Coke Co., Pennsylvania & Lake Erie Dock Co., all of Pittsburgh; president and director of the National Tube Co. of Ohio; director of Bell Telephone Co. of Pennsylvania, Pittsburgh Limestone Co., New Castle, Union Fidelity Title Insurance Co. of Pittsburgh, Commerce Housing Corp. and the United States Steel and Carnegie Pension Fund. He is a member of the Duquesne, Pittsburgh, Union Pittsburgh Golf, Fox Chapel Golf and Allegheny Country clubs of Pittsburgh, and the Racquette and Tennis club, New York.

Mr. Schiller is an enthusiastic welfare worker and has been instrumental in installing many sanitary and safety

devices in the mills under his supervision. He has encouraged and aided inauguration of swimming pools, summer playgrounds and such recreational activities for industrial employees.

Men of Industry

Personal News of a Business Character Pertaining to the Iron and Steel and Related Fields of Enterprise

FLOYD ROSE, who has just been elected vice president of the Vanadium Alloys Steel Co., Latrobe, Pa., resigned July 1 as secretary and general manager of sales of the Hep-

FLOYD ROSE

penstall Forge & Knife Co., Pittsburgh. His business career commenced with the Carbon Steel Co., Pittsburgh, in 1896. He remained with that company 11 years and through various promotions became assistant general superintendent. In 1907, he left Pittsburgh to become general superintendent of the Portsmouth Steel Co., Portsmouth, O., and after two years he resigned and returned to Pittsburgh to engage in the metallurgical and inspecting engineering business as Floyd Rose & Co. During the World war he was in the Pittsburgh district ordnance office in charge of the production of gun forgings at the Heppenstall Forge & Knife Co., the Edgewater Steel Co., and the Carbon Steel Co. At the conclusion of the war the Heppenstall Forge & Knife Co., made him secretary and general manager of sales. A farewell dinner to Mr. Rose was given June 24 by Heppenstall company.

* * *

J. C. Ward, president of Edgar Allen Steel Co., Inc., New York, maker of high speed, carbon and alloy tool steels, sailed for England June 30 on the MAURETANIA.

* * *

H. A. Robinson of the sales organization of Rogers Brown & Crocker Bros. Inc., has been transferred from the Philadelphia to the Pittsburgh office of that company.

* * *

R. H. Clarke, vice president of the Otis Steel Co., Cleveland, was elected a director of the company at the directors' meeting June 30. Ludwig Kemper, treasurer, also was made a director.

* * *

Harry Hartling has been placed in charge of the newly opened sales office at 832 Guardian building, Cleveland, for Hills-McCanna Co., Chicago, engineer and maker of steam specialties, force feed lubricating systems, etc.

* * *

R. J. Potts was elected president recently of the D. June Machinery Co., Waco, Tex. Mr. Potts has acquired a substantial interest in the company. M. Holderman, for 35 years president of the company, has been made chairman of the board. June F. Holderman will continue as vice president.

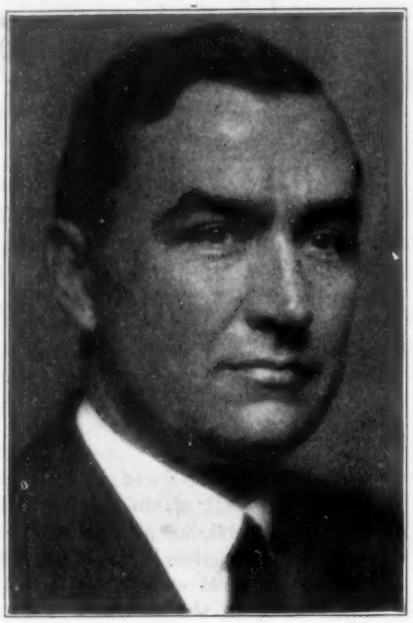
* * *

J. E. Hanson who recently joined the research department of the Ferro Enameling Supply Co., Cleveland, for the past six years had been with the Mellon Institute of Industrial Research at Pittsburgh. He was graduated from the University of Illinois, in 1920. Mr. Hanson was chairman of a special committee in the enamel division of the American Ceramic society on furnaces for cast iron enameling.

* * *

William H. Barr, president of the National Founders association, has formed a company under his own name, as William H. Barr, Inc., Buffalo, N. Y., brass founders. Mr. Barr has been identified with the foundry industry for about 25 years, being president of Lumen Bearing Co., Buffalo, until his retirement some time ago.

John C. McCallum will serve as



ROBERT W. GILLISPIE
New vice president, assistant general manager and director of Jeffrey Mfg. Co., Columbus, O.

general superintendent of the Barr company which will manufacture brass and bronze castings for the machinery trade.

* * *

Frank F. Chiles has become affiliated with the sales department of the McKinney Steel Co., Cleveland, and will give especial attention to the marketing of bar products. The McKinney company now is completing new bar capacity and will engage in this line of production in the near future. For the past 21 years Mr. Chiles has been a salesman for the Carnegie Steel Co. in northern Ohio territory. He came to Cleveland in October 1905, having joined the United States Steel Corp. sales force at New Orleans three years previously. Mr. Chiles withdrew from his connection

(*Concluded on Page* 120)

British Miners Expected Back

Eight-Hour Day Bill Believed To Indicate Early Renewal of Production, Though General Settlement Is Not in Sight—Idle Plants Making Repairs—German Steelworks Operating at 67 Per Cent

2-3 Caxton House, Westminster, S. W.1
European Headquarters,
IRON TRADE REVIEW,

LONDON, July 6.—(*By Radio*)—A national coal agreement is not yet in sight, but the eight-hour day bill is expected to bring many striking miners back to work. Iron and steel prices continue to increase. Shipments of pig iron from Middlesbrough in June, amounting to 18,350 tons included 6625 tons for American purchasers. Furnaces were in arrears in their shipments. Foundries are operating with iron purchased on the Continent. Stocks of hematite are substantial due to the fact the steel plants are closed because of no fuel. Rerolling plants and engineering works are busy, mainly with continental steel and recovered pit fuel. Sheet bars are scarce, and old steel stocks are being used up. Some sheet mills are operating and are receiving inquiries from Japan. Tin plate production is near the vanishing point. General inquiries promise to be large after the coal strike is settled. In the meantime many mills are making repairs and improvements.

German steel production is at the rate of 67½ per cent, according to information from Berlin. British consumers are buying semifinished material. The French and Belgian markets are more active than during the last few weeks.

French Steel Output Nears Prewar Production

PARIS, June 29.—(*European Staff Service*)—Stockholders of the Societe Metallurgique de Knutange held their annual general meeting, at which it was stated that during 1925 the output of pig iron was 90 per cent of the 1913 output and 64 per cent of the maximum capacity of production. The output of steel ingots and castings was 98 per cent of the 1913 output and 63 per cent of the maximum capacity of production; the output of rolled products was equal to the 1913 output and 63 per cent of capacity. Steel exports were 58 per cent of the output and were shipped mostly to Great Britain, Italy and British India. Exports to Germany were less than in 1924. Improvements and reconstruction work were effected in the company's plants during 1925. A profit of 80,227 francs ($2320) was registered, which brought down previous losses to a total of 87,554,498 francs ($2,525,000).

An information committee including prominent citizens of France and Germany was organized at Luxemburg on the initiative of M. Mayrish, general manager of Arbed. The object of the committee is to exchange information and documents, particularly of an industrial character. One office will be opened in Paris and one in Berlin. Among the originators of the scheme who are members of this committee on the French side are Theodore Laurent, vice president of the Comite des Forges de France, and M. de Peyerimhoff, president of the Comite des Houillieres de France, a similar organization to the Comite des Forges but dealing with coal; on the German side are, M. Bruhn, one of the directors of Krupp's, M. Buecher, member of the economic council of the Reich and M. Thyssen. A meeting will be held soon.

Switzerland may in the future become an iron producing country, since iron ore deposits have been discovered in the Frick valley in the Aargau district. According to the *London Metal Bulletin*, the deposits extend over nearly 1000 acres and contain 26,000,000 tons of ore assaying from 27 to 37 per cent iron. The probable

Current Iron and Steel Prices of Europe

Dollars at Rates of Exchange, July 6	British Gross Tons U. K. Ports		French Metric Tons Channel Ports		Belgium and Luxemburg Metric Tons Channel Ports		German Metric Tons Rotterdam or North Sea Port	
Export Prices f. o. b. Ship at Port of Dispatch—By Cable								
PIG IRON	£ s d		£ s d		£ s d		£ s d	
Foundry No. 3, Silicon 2.50-3.00	$19.48	4 4 0*	$16.31	3 7 0	$16.31	3 7 0	$17.53	3 12 0
Basic	19.48	4 4 0	17.05	3 10 0	17.05	3 10 0	17.05	3 10 0
Basic-bessemer	19.48	4 4 0†	14.00	2 17 6	14.00	2 17 6	18.26	3 15 0
Hematite, Phosphorus 0.02-0.05	20.21	4 3 0	17.96	665*	.....	....	20.70	4 5 0
SEMIFINISHED STEEL								
Billets	$29.22	6 0 0	$21.18	4 7 0	$21.18	4 7 0	$20.70	4 5 0
Wire rods	43.83	9 0 0	25.32	5 4 0	25.32	5 4 0	27.27	5 12 0
FINISHED STEEL								
Standard rails	$35.31	7 5 0	$29.22	6 0 0	$29.22	6 0 0	$29.22	6 0 0
Merchant bars	1.58c	7 5 0	1.03c	4 14 0	1.03c	4 14 0	1.06c	4 16 0
Structural shapes	1.41c	6 10 0	1.01c	4 12 0	1.01c	4 12 0	1.05c	4 15 0
Plates, ship, bridge and tank	1.52c	7 0 0	1.10c	5 0 0	1.10c	5 0 0	1.18c	5 7 0
Sheets, black, 24 gage	2.28c	10 10 0	2.06c	9 7 6	2.06c	9 7 6	2.42c	11 0 0
Sheets, galvanized, 24 gage, corrugated	3.59c	16 10 0	2.93c	2,400*	3.66c	3,100*	3.63c	16 10 0
Bands and strips	2.17c	10 0 0	1.20c	1,000*	1.33c	6 2 6	1.43c	6 10 0
Plain wire, base	2.12c	9 15 0	1.32c	6 0 0	1.32c	6 0 0	1.51c	6 17 0
Galvanized wire, base	2.77c	12 15 0	1.76c	8 0 0	1.76c	8 0 0	1.98c	9 0 0
Wire nails, base	2.07c	9 10 0	1.71c	7 15 0	1.71c	7 15 0	1.76c	8 0 0
Tin plate, base box 108 pounds	$ 4.99	1 0 6	.....	.....	.....	.....	$6.82	1 8 0

*Francs

Domestic Prices at Works or Furnace—Last Reported			Francs			Francs		Marks
Foundry No. 3 Pig Iron, Silicon 2.50—3.00	$18.51	3 16 0	$12.42	460 (2)	$13.00	500	$19.55	85
Basic pig iron	17.77	3 15 0	12.29	155 (1)	12.74	490	20.24	88
Furnace coke	5.36	1 2 0	4.56	169	4.03	155	4.95	21.50
Billets	27.39	5 12 6	16.74	620	18.72	720	27.37	119
Standard rails	1.63c	7 10 0	1.04c	850	1.00c	780	1.46c	140
Merchant bars	1.57c	7 5 0	1.01c	825	1.00c	790	1.46c	140
Shapes	1.52c	7 0 0	1.00c	735	1.00c	775	1.42c	136
Plates, ship, bridge and tank	1.63c	7 10 0	1.03c	845	1.01c	860	1.60c	153
Sheets, black, 24 gage	2.28c	10 10 0	1.83c	1,500	1.77c	1,500	2.19c	210
Sheets, galvanized 24 gage, corrugated	3.42c	16 0 0	2.87c	2,350	3.66c	3,100	3.96c	380
Plain wire	2.12c	9 15 0	1.56c	1,280	1.33c	1,125	1.88c	180
Bands and Strips	2.28c	10 10 0	1.20c	585	1.18c	1,000	1.67c	160

*Middlesbrough; †Scotch foundry iron; (1) Basic-bessemer; (2) Longwy. British export furnace coke £1 2s 0d ($5.36) f. o. b. Ferromanganese £14 10s 0d ($70.62) f. o. b. German ferromanganese £12 0s 0d ($58.44) f. o. b.

The equivalent prices in American currency are in dollars per ton for pig iron, coke, semifinished steel and rails; finished steel is quoted in cents per pound and tin plate in dollars per box. British quotations are for basic open-hearth steel; French Belgian Luxemburg, and German are for basic-bessemer steel.

total extent of the deposits is believed to be at least twice as much as the area actually discovered. The federal authorities of Aargau have extended the concession to the end of 1931 on the condition that the ore shall be smelted in the district. It is contemplated using electric furnaces, but the main difficulties at the start is finding necessary capital.

Iron ore production in France during April was 2,979,986 metric tons, which is the lowest of the year and slightly below the monthly average of 1925. The record figure was reached last March with 3,331,272 metric tons. Stocks on April 30 were 2.288,509 metric tons, against 2,471,699 tons on March 31. During April the output of iron pyrites was 16,060 tons, and the production of bauxite was 38,600 tons. The following table gives figures pertaining to iron ore since the beginning of the year, compared with the monthly averages of the three preceding years, in metric tons:

Mon. ave.	Production	Stocks at end of month
1923	1,935,460	.....
1924	2,416,020	.....
1925	3,048,185	.....
1926		
Jan.	3,138,525	2,564,924
Feb.	3,018,235	2,575,108
March	3,331,272	2,471,699
April	2,979,986	2,288,509

Output of German Iron Shows Decline

Berlin, June 25.—(*European Staff Service*)—Production of pig iron in Germany during April was 668,203 metric tons, compared with 716,654 tons in March. April 30 80 blast furnace stacks were blowing, one more than March 31. The April output included 405,020 tons of basic bessemer pig iron, 143,887 tons of ferro-alloys, 78,022 tons of foundry pig iron, 38,417 tons of hematite pig iron, 1207 tons of acid bessemer pig iron, and 1650 tons of gray forge pig iron.

Output of steel ingots and castings in April amounted to 868,557 metric tons, against 949,797 tons in March. It is to be noted production of steel ingots and castings since the beginning of this year totals 3,425,573 tons, corresponding to an annual output of over 10,000,000 tons. On an estimated capacity of steel production in Germany of 14,000,000 tons, the present rate of production is slightly in excess of 65 per cent, which has been fixed by the raw steel syndicate since the beginning of the year. April output included 468,440 tons of basic open-hearth steel, 373,809 tons of basic bessemer steel, 7184 tons of acid open-hearth steel, 5231 tons of crucible and electric steel, and 13,893 tons of steel castings.

Output of finished steel in April totaled 744,463 metric tons, compared with 794,145 tons in March. The March figures are the highest reached since the beginning of this year. The following table gives figures for the first four months of 1926 compared with the monthly averages of three preceding years in metric tons:

Monthly average	Pig iron	Steel ingots and castings	Finished steel
1923	411,360	525,435	.....
1924	651,020	819,605	681,195
1925	848,060	1,016,120	853,850
1926			
January	689,463	790,971	669,788
February	631,367	816,248	680,113
March	716,654	949,797	794,145
April	668,203	868,557	744,463

British May Foreign Trade Shrinks Sharply

Birmingham, Eng., June 23.—(*European Staff Service*)—The British Board of Trade's return for May shows a total export of iron and steel including scrap, of 277,849 tons compared with 322,832 tons in April and 355,458 tons in May last year. Imports, including scrap, amounted to 185,844 tons compared with 298,649 tons in April and 217,831 tons in May last year.

In the export department a remarkable reduction appears under the head of pig iron sent to America, the total being 55 tons compared with 1500 in the same month a year ago. Ferroalloys shipped to the United States totaled 226 tons against 6292 tons in May last year. The total export of 9470 tons of forge and foundry iron compares with 30,486 tons in April. Important increases were under the head of plates totaling 21,605 tons against 12,610 tons in April. Galvanized sheets also were 60,755 tons against 53,643 tons in April. Railway rails increased from 24,195 tons in April to 29,770 tons in May. There were substantial reductions under the heads of girders, tin plates, and wrought tubes and fittings. Shipments of pig iron were largely accountable for the total reduction.

In the import section a striking item is that of steel billets which totaled only 39,323 tons against 59,913 tons in April. Steel bars were 29,922 tons against 48,645 tons in the previous month. Wire rods, however, showed a large increase but steel girders fell from 7347 tons to 4459 tons. Plates and sheets were 10,246 tons against 15,149 tons in April. Wire reduced from 6403 tons to 3631 tons.

Exports of coke and manufactured fuel totaled 94,487 tons compared with 189,476 tons in April and 205,682 tons in May last year. Coal exported totaled 1,448,368 tons against 4,290,652 tons in April and 4,652,464 tons in May last year. France was the largest buyer of coal, receiving 222,323 tons against 884,188 tons in the same month last year. America received only 51 tons although the total for the five months was 420,906.

German Exports to United States Not Large

BERLIN, June 28.—(*European Staff Service*)—Complaints regarding the unsatisfactory development of German exports business continue and it is particularly noted that the booking of new orders has decreased. The statement of the United States treasury with respect to the increase of the import duty on those German products containing steel or iron bought with an export rebate has resulted in heavy opposition among producers, exporters and the trade press. It is claimed that an export rebate is not paid for pig iron, ingots, bars or other finished or semifinished products, but only for hardware manufactured from this material. Moreover, by the granting of these rebates the price of German hardware is not reduced below the world market level as the rebates only account for part of the increase of the prices of German raw material caused by the German raw material on iron and steel. It is said also that exports to the United States of goods containing iron or steel are not considerable.

German exports of pipe and tubes to the United States during the first three months of 1926 totaled only 2814 metric tons; sheets and wire, 1065 tons; rails and accessories, 5877 tons; bars and structural shapes, 14,848 tons. It should be mentioned that on all these raw products no export rebate is granted.

German exports of iron and steel in April again showed a small decline, whereas imports increased, as can be seen by the following table, in metric tons:

1926	Imports	Exports
January	67,597	391,172
February	69,331	376,553
March	69,375	466,364
April	83,599	450,555
January-April	289,901	1,684,643
1925		
January-April	547,033	1,122,527

Exports of structural shapes and bars advanced from 77,365 metric tons in March to 93,364 tons in April, this increase being chiefly due to increased shipments to Japan and the Argentine Republic, while the United States received only 7858 tons. Beams advanced from 10,705 tons to 12,186 tons and semifinished goods from 26,685 tons to 27,805 tons. Exports of plates also increased from 22,927 tons to 27,151 tons, due to Holland buying larger quantities. On the other hand, foreign sales of almost all other commodities declined, the most marked decrease being in respect of rails and accessories, which dropped from 55,520 tons to 40,173 tons.

The principal feature of the German export situation is the keen competition by Franch and Belgian producers who, owing to their depreciating exchange, are in a position to underbid all German offers. The only advantage German works have is that the time of delivery in Germany is shorter than abroad, owing to the unsatisfactory occupation of mills. Export demand for wire nails and wire has become slack. Demand for pipes from abroad also is less. Generally speaking, it may be said that, contrary to expectations, the general strike in England has not had the result of bringing increased business to any large extent to German steel mills.

The United Steel Works Co., which now controls about 48 per cent of the output of the raw steel union, has appointed the "Stahl-Union G. m. b. H." of Dusseldorf its export agent.

Here and There in Industry

Live Information Which Records the Expansion of Various Lines of Productive Enterprise

MOLYBDENUM CORP. OF AMERICA, Pittsburgh, has discontinued the position of chairman of the board and has re-elected former officers, J. W. Weitzenkorn was continued as president, Marx Hirsch, vice president, James S. Crawfard, secretary-treasurer and William B. Kuntz, assistant treasurer.

* * *

FREDERICK C. MATHEWS CO., Detroit, Process Metal Stamping Co., Detroit, and St. Thomas Metal Signs Ltd., St. Thomas, Ont., have been merged under the title of Mathews Industries Inc., with $1,000,000 capital. Plants will be enlarged.

* * *

T P. SCHUSTEK, formerly superintendent for A. G. Burton's Sons, Chicago, manufacturer of printing and bookbinding machinery, has bought the machine shop of R. D. King, 430 South Green street, and will convert it to the production of printing and bookbinding machinery.

* * *

WALKER BROS., 620 South Delaware avenue, Philadelphia, electrical equipment manufacturer, has bought the plant of the Philadelphia Terra Cotta Co., Conshohocken, Pa., which will be enlarged and equipped for production of steel tubing for electrical work, the company moving its operations to the new plant.

* * *

MORRISON & RISMAN CO., INC., Buffalo, N. Y., R. L. Morrison, vice president and treasurer, will build a plant 105 x 650 feet at Indianapolis, Ind., for the reconstruction of railroad track equipment. Equipment will be installed for reconstruction of frogs, switches and other track material. F. C. Cullem will be manager of the new plant.

* * *

SOUTHERN RAILWAY has awarded a contract to Dwight P. Robinson & Co. for design and construction at Chattanooga, Tenn., of a complete locomotive terminal, including roundhouse, machine shop, boiler, smith and tank shop, storehouse, office and oil house and power house. This is the fourth contract furnished by this road to Dwight P. Robinson & Co., previous work having been done at Birmingham, Ala., Spartanburg, S. C., and Princeton, Ind. Work will be under the direction of H. W. Miller, vice president, and B. Herman, chief engineer, of the railroad, and will be started immediately.

* * *

REED-PRENTICE CO., Worcester, Mass., manufacturer of tools and machinery, has been reorganized under the name of Reed-Prentice Corp. with $634,450 capital, and will continue manufacturing the same products as heretofore. The incorporators are Robert Cutler of Brookline, Mass., Francis H. Cummings, Boston, and Henry R. Guild, Nahant, Mass.

* * *

PLANS have been perfected for the consolidation of Walden-Worcester Inc., Worcester, Mass., and Stevens & Co. of New York, according to announcement by J. V. Critchley, president of the Worcester concern. The Walden-Worcester Co. manufactures wrenches and other specialties, and Stevens & Co. has a widespread distributing organization in the automotive and radio industries.

* * *

GEORGE T. TRUNDLE JR. ENGINEERING CO., Cleveland, which recently changed its name to the Trundle Engineering Co., has formally announced the change. It carries no change in the organization. Capital stock was increased from $50,000 to $100,000 and an extra dividend of 25 per cent was declared. The company has been in existence six years and has doubled its business each year and has a staff of about 100 engineers.

* * *

THE plant of the Memphis Steel Construction Co., South Greensburg, Pa., was sold recently to the Superior Steel Pipe Co., a newly organized concern of Greensburg. Charles V. Witt, formerly of the Westinghouse Electric & Mfg. Co., and recently with the James McNeil & Bros. Co., Pittsburgh, is president of the new concern which will manufacture steel plate products. New buildings are to be started at once and the plant is expected to open Sept. 1.

* * *

DU PONT NATIONAL AMMONIA CO., a newly formed corporation, has taken an important interest in the common stock of the Pacific Nitrogen Corp., Seattle, according to announcement by T. E. Doremus, Pacific coast representative for E. I. du Pont de Nemours & Co. Officers of the National Ammonia Co. are: Jasper E. Crane, president, D. Dannanbaum, vice president, B. L. Ward, treasurer, S. J. Thomison, assistant treasurer, M. D. Fisher, secretary, E. A. Howard, assistant secretary, and J. B. Edge, chairman of the board.

Lorain Steel Employes Take $8,000,000 Policy

Employes of the National Tube Co. and the Lake Terminal railroad at Lorain, O., to the number of 8000, have organized a relief association, and have taken out a group life insurance policy for $1000 each, collectively $8,000,000. This is one of the largest group policies written for employes of various plants of the United States Steel Corp.

Eighty-two per cent of the employes at Lorain joined the association, the purpose of which is "to encourage and promote social and general welfare of its members." O. C. Milliken, assistant chief clerk, at the tube company's plant, was selected president; William B. Young, a draftsman, vice president; J. L. Chapman, superintendent of the casualty, welfare and employment department, was selected secretary and treasurer, and H. A. Getty, assistant secretary and treasurer. Twelve directors also were chosen, representing various departments.

The policy was written by the Equitable Life Assurance society. The employes pay all the premium, the company deducting the payments from their wages. The premium is $12 a year on $1000 protection. The policy has a permanent disability clause, the full amount being paid in 20 instalments for disability, up to the age of 60; thereafter only the full amount, at time of death. No physical examination was required of any of the 8000 employes. If an employe leaves the company the policy is dropped, but he may convert it to any other standard form of insurance, without physical examination.

Men of Industry

(*Continued from Page* 116)

with the Carnegie Steel Co. several months ago.

* * *

Leonard Peckitt, president of the Replogle Steel Co., Wharton, N. J., and the Warren Foundry & Pipe Co., Phillipsburg, N. J., sailed June 30 for a six weeks' trip to Europe.

* * *

F. J. Jaeger was elected president of the St. Louis District Enamelers' club, to succeed S. J. Stretch, resigned, at a meeting of that organization last week.

* * *

Eugene Rich, engineer in the Cincinnati office of the Bourne-Fuller Co., Cleveland, has resigned to take a similar position with Hugh Baker & Co., Indianapolis, Ind.

* * *

W. S. Jones has resigned as vice president and director of the Vanadium-Alloys Steel Co., Latrobe, Pa., maker of high speed carbon and alloy tool steels.

* * *

Raymond Fink, who has been vice president of Pierce, Butler & Pierce, Mfg. Corp., New York, steam equipment manufacturer, has joined the executive staff of the Sherman Corp., Boston, engineers.

* * *

Joseph V. Smith, for many years manager of the shovel department of Hubbard & Co., Pittsburgh, has resigned to engage in another business. His successor has not been appointed.

* * *

Arthur W. Thompson, Pittsburgh, has been elected president of the United Gas Improvement Co., Philadelphia, to succeed Samuel T. Bodine who was elected chairman of the board. Mr. Thompson had been president of the Philadelphia Co. and its affiliated public utility companies.

* * *

S. C. Leonard, Detroit, recently was elected secretary of the Western Bar Iron association, succeeding the late James H. Nutt of Youngstown. Mr. Leonard was one of the founders of the bar iron association.

* * *

B. A. Clements has been elected president of Rome Iron Mills, Inc., with offices in New York as announced briefly in last week's issue. He succeeds Edward Marshall Zehnder who died June 21. Mr. Clements was born in Indianapolis, Oct. 3, 1877, and after attending the public schools of Centralia, Ill., entered the service of the Illinois Central in 1891 as messenger boy. He served in the operating department until 1906 when he was appointed chief clerk to the operating vice president. In 1909 he was appointed general agent, reporting to the president. In 1910 Mr. Clements left the Illinois Central to become western representative of Worth Bros Co. with headquarters at Chicago. In April 1916 Mr. Clements became vice president of the Rome Iron Mills, Inc., and remained in this capacity until his election as president.

* * *

William T. Shepard, resident vice president of Rogers Brown & Crocker Bros., Inc., at Buffalo, N. Y., retired July 1, being succeeded by R. T. Melville, who assumes these duties with offices at 316 Erie County bank building.

* * *

Charles J. Nieman, secretary and treasurer of the Penn Iron & Steel Co., Creighton, Pa., has just returned from a three-month trip to the Far East. On his journey he visted 16 different countries and cruised on 24 bodies of water.

* * *

B. M. Horter, formerly of the Philadelphia office of Cutler-Hammer Mfg. Co., Milwaukee, manufacturer of electric controller devices, has been appointed manager of its Boston office. He succeeds J. M. Fernald, resigned. Mr. Horter joined the Cutler-Hammer company in March 1916 as an office boy.

* * *

M. F. McConnell, recently appointed general superintendent of the Mingo works of the Carnegie Steel Co. at Mingo Junction, O., formerly was assistant general superintendent. He succeeds George E. Wisener whose retirement July 1 was announced in IRON TRADE REVIEW, April 8.

George W. Vreeland, who succeeds Mr. McConnell as assistant superintendent had been superintendent of blast furnaces at the Mingo, Bellaire and Steubenville works. C. P. Clingerman, superintendent of blast furnaces at Bellaire now holds the same position for Mingo and Steubenville.

Obituaries

C. L. LINGO, for 25 years traffic manager of the Inland Steel Co., Chicago, and a prominent figure in recent years in traffic matters before the interstate commerce commission and various middle western state commissions, died July 1 at the age of 60.

* * *

Benton S. VanHise at one time with the Central Iron & Steel Co., Brazil, Ind., died recently there at the age of 72.

* * *

Franklin Estabrook, one of the partners of R. Estabrook's Sons, Boston, plumbing supply company, died recently at his home in Auburndale, Mass.

* * *

E. George Lavino, head of E. J. Lavino Co., Philadelphia, until poor health caused his retirement two years ago, died June 28 at the home of his eldest son. All offices of E. J. Lavino Co. were closed June 29 in respect.

* * *

Edward Marshall Zehnder, whose death on June 21 was announced briefly in last week's issue of IRON TRADE REVIEW, long had been prominent in the iron and steel industry. He was born in Mainville, Columbia, Pa., May 24, 1866 and was educated in public schools at Danville, Pa. His business career was started as a clerk at the Glendower Iron Works at Danville in 1884. In 1887 he was made inspector of rails and bars at the Montour Iron & Steel Co., also at Danville. He became identified with the bolt and nut industry in July 1890 when he was appointed assistant superintendent of the rolling mills for Pennsylvania Bolt & Nut Co., Lebanon, Pa. From 1892 he was superintendent. In April 1899 he took charge of constructing the Scranton works and later became general superintendent of the company. On May 25, 1906 he was elected president of the Scranton Bolt & Nut Co. He was also president of the Rome Iron Mills, Rome, N. Y., and a director of the Pennsylvania Casualty Co., Scranton, Pa. Mr. Zehnder was a member of the American Iron and Steel institute, Engineering Society of Northeastern Pennsylvania, Engineers club and Railroad club, New York.

* * *

Joseph H. Foster, for many years head of the spindle department of Fales & Jenks Machine Co., Pawtucket, R. I., died recently at his home aged 80.

Machinery

June Turns Out to Be One of Best Equipment Months of the Year—Indications Point to a Good July

CONTRARY to early expectations, June proved to be one of the best months of the year for machine tool and equipment sales. For some dealers it was the best month, but for the majority it was close to the average and well up to that of June, 1925. Except for certain tool building plants in the Cincinnati territory, operations continue at a good rate. July and August, usually more or less dull months, are showing some slowing down but sales still continue on a fair basis. With the exception of railroad sales, orders are small and well scattered, but their volume denotes a healthy condition of industry. Business in the New York and Chicago districts, particularly, has been buoyed up by the numerous lists of railroads. Used tool demand is fair.

New York, July 6.—Featuring the eastern tool market is further buying by Atlantic Coast Line for its shops near Tampa, Fla. Close to $250,000 of machinery has been purchased, with the bulk going to one dealer. Another large railroad contract, which has resulted in substantial business for eastern builders, is that of Illinois Central. Its recent orders have aggregated close to $150,000, bringing the total up to more than $200,000. While the month just closed has been one of the best so far this year for most builders, considering the country as a whole, this situation was not reflected quite so actively in the local district; nevertheless, business was reasonably satisfactory, and in view of some of the heavy railroad business that has been placed since July 1, indications are that the current month will be better than normal. One development is rapidly advancing deliveries. A leading inquiry is that of Southern railway for shops at Chattanooga, Tenn., involving possibly 20 machine tools and including a 90-inch driving wheel lathe, two brass lathes, one portable lathe, one 3-inch bar turret lathe; a 3½-inch turret lathe, one 42-inch planer, two boring mills, two 2½-inch bolt cutters, one No. 3 universal milling machine, one piston rod grinder and several drill presses and punches and shears. Action is expected shortly on approximately $60,000 of machine tool equipment for American Smelting & Refining Co. and on several machine and hand tools for the board of education, Newark, N. J., on which bids opened July 6. The large list of New York Rapid Transit Co. also is likely to close any time.

Boston, July 6.—Machine tool demand is at a low point, and manufacturers report more evidence of seasonal slump. Several leading tool builders, however, report sales to date ahead of the total for the same period last year. At Boston considerable interest attends the call for bids by the school department. This list includes seven universal milling machines, four cutter grinders, one surface grinder, one screw machine, 25 engine lathes, one toolroom lathe and two turret lathes. The estimated value of the total list is $70,000. A Connecticut manufacturer is asking bids on four tools. Other scattered inquiry totals perhaps 10 tools. Prices show no tendency towards change.

Cincinnati, July 6.—A general slowig down in operations is reported by virtually all machine tool builders in this district. Orders have slumped off preceptibly in recent weeks. Few plants are operating better than 75 per cent of capacity with some as low as 40 per cent. Indications are that existing conditions will continue throughout this month and possible next. Railroad inquiry is exceedingly light, while automobile makers are not as active as heretofore. Trojan Brass Mfg. Co., Cincinnati whose plant was destroyed by fire June 30 probably will be in the market shortly for a number of tools. Dealers in used machinery report business quiet.

Pittsburgh, July 6.—Quietness preceding the holiday characterized the equipment market last week and crane sellers report a like dearth of action. Numerous single crane inquiries are out and a few groups of cranes. Carnegie Steel Co., is about to close on several open-hearth chargers, some small cranes, and a few of larger capacity. Westinghouse Electric & Mfg. Co. has added several small items to its East Pittsburgh tool list and has issued an additional list for its East Springfield plant. The trade expects it will commence to release orders shortly after July 5. This latter is also the expectation with reference to the list of National Tube Co., McKeesport, Pa. The report is current that the school board at Johnstown, Pa. has tentatively agreed upon its machine tool purchase against its recent list, but no local dealers as yet have received orders.

CRANE ORDERS PLACED

Four electric overhead cranes, previously noted as placed, by American Smelting & Refining Co., awarded to Shaw Crane Works.

Three 50-ton cranes of Backus Brooks Co., Minneapolis, for installation in Canada, to Northern Engineering Works.

Two 20-ton locomotive cranes, for Illinois Central railroad, Gulfport, Miss., to Orton Crane & Shovel Co.

Among single awards were: 20-ton used locomotive crane for William G. Atwood, New York, to Forsyth Bros.; 40-ton electric crane for a company in New York metropolitan district, to Whiting Corp.; 40-ton electric crane for National Tube Co., Lorain, O., to Shaw Crane Works; 10-ton electric crane for Maine Central railroad for installation at Waterville, Me., to Shaw Crane Works; 10-ton crawler crane for Stamford Gas & Electric Co., Stamford, Conn., to McMyler-Interstate Co.; locomotive crane for Wiggins Terminal, Boston, reported placed; 2-yard bucket handling crane for cement plant in South America, to Whiting Corp.; 25-ton 8-wheel locomotive crane for City of Detroit, to Orton Crane & Shovel Co.; cinder pit gantry bucket crane for Chicago North Western railroad, Chicago, to Milwaukee Electric Crane & Mfg. Co.; 10-ton crawler crane for H. C. Frick Coke., to Orton Crane Shovel Co.

CRANE ORDERS PENDING

Several cranes for new Frigidaire plant at Dayton, O., bids to be asked by General Motors Co.

Two 5-ton traveling cranes for Berkeley Steel Construction Co., Berkeley, Calif.; pending.

Among single inquiries are: 25-ton crane for engine house of Carnegie Steel Co., Clairton, Pa., bids being taken; 15-ton 4-motor crane for Elliott Co., Jeannette, Pa., bids being taken; 10-ton crane for Reliance Steel Casting Co., Pittsburgh, bids being taken; 10-ton crane for Scottdale, Pa., plant of United States Cast Iron Pipe & Foundry Co., Burlington, N. J., bids being taken; locomotive crane for West Penn Cement Co., Butler, Pa., bids about to be asked; electric overhead crane for New York Steam Co., New York, specifications revised, Thomas E. Murray, New York, is engineer in charge; 5-ton electric hoist for grit chamber for department of public works, New York, bids opened July 7.

Chicago, July 6.—Tool dealers here report June the best month this year. One seller finds it the best month since the war, and another states his volume of sales exceeds the 1926 average thus far by fully 40 per cent. No summer slump is apparent. A good proportion of the June volume has come from three large industrial interests. Metalworking plants are buying well although mostly one or two machines at a time. Illinois Central railroad has about completed buying against its Paducah, Ky., list. Chicago & North Western is expected to start awarding on recent lists in the near future. Esteban Rock, Monterey, Mex., consulting engineer, has bought a number of general sheet metal working tools here during the past week for shipment below the border. Inquiries are holding up, well, Chicago, Rock Island & Pacific railroad inquiring for two 18x36-inch lathes. Used tools are in fair demand. Crane builders are getting a good number of orders, with considerable more pending, especially in overhead equipment. One locomotive crane interest states the first six months have proved 30 per cent better than the same period in 1925.

Cleveland, July 6.—Both dealers and manufacturers here have closed a good month and are expecting fair business in July, despite the vacation season when a restricted activity usually is noted. Inquiries are small but are coming in sufficient number to give optimism. Sales are small, but well scattered. Manufacturers are operating on about the same scale as in recent months. Dealers in used equipment report good demand and little difficulty in getting machine for stock.

Scrap from Ore Mines Shipped by Boat

A cargo of 4200 tons of heavy melting steel scrap, a considerable portion of which was collected on the iron ore ranges is being shipped from Duluth to Buffalo, consigned to the Bethlehem Steel Corp. The LAGONDA of the Interlake Steamship Co.'s fleet, subsidiary of Pickands, Mather & Co., is carrying the scrap. The boat went up the lakes with a cargo of steel rails for the Chicago & North Western railroad. It is especially equipped with cranes and magnets. In the past all scrap from the Duluth and Minnesota iron ore district was shipped by rail, with one exception, a small shipment by boat.

Will Sell Swedish Ore

Buck, Kiaer & Co., 9 East Forty-sixth street, New York, have been appointed sales agents in the United States for the iron ore produced by Trafikaktiebolagel Grangesberg-Oxelosund, Stockholm, Sweden. The latter company sells the Gellivare and Kirunavaara ores. The ore is shipped from Narvik and Lulea, Sweden. The agency takes effect July 1. L. J. Buck is vice president of Buck, Kiaer & Co. in charge of iron ore sales. This Swedish iron ore agency originally was held in the United States by the late Albert Broden. Several years ago the agency passed into the hands of Park & Williams, Inc., Philadelphia, who have retained the agency up until this time.

Plant Has Safety Record

The Zanesville, O., plant of the American Rolling Mill Co. has made a record in its safety work. In the entire plant, employing 800 men, there have been only three lost time accidents since Jan. 1. On the 13 hot mills, making light gage sheets, where the frequency of accidents is generally high, not one accident has occurred during the year, an outstanding record for hot mills.

Southern Industries Using New Sheet Mill Product

Birmingham, Ala., July 6.—Among customers of the new sheet mill of the Tennesse Coal, Iron & Railroad Co., is the Storey-Matthews Mfg. Co., which is taking a little less than 50 tons of 22-gage sheets every six to eight weeks with which to manufacture toys. An order for 300,000 children's scooters to be sold at 10 cents each are being manufactured, as well as 300,000 miniature dump cars.

The toy works employs mainly negro girls to operate machines, and pays piece wages. Negotiations are under way to make toys for a northern concern, in which case 75 to 100 tons of 22-gage sheets will be used monthly.

A local stove and range company is using sheets, another company is manufacturing radiator covers. Numerous other smaller industries are being started in this district, using locally produced steel.

Industrial Business Changes

ALEXANDER HIGH, dealer in foundry equipment, 200 Devonshire street, Boston, will open a branch office in Detroit, among other lines having exclusive representation in Michigan for products of the Royer Foundry & Machine Co., Wilkes-Barre, Pa.

* * *

Brown, Boggs Co., Hamilton, Canada, has changed its name to Brown Boggs Foundry & Machine Co.

* * *

Hills-McCanna Co., Chicago, has opened a sales office at room 832 Guardian building, Cleveland, in charge of Harry Hartling.

* * *

Crucible Steel Co. of America has leased property in the industrial section of Atlanta and will establish offices and warehouse for distribution in the Southeast.

* * *

Federal Oil Burner Mfg. Co., Bridgeport, Conn., manufacturer of oil burning equipment, has changed its name to Cameo Oil Burner Mfg. Co.

* * *

W. A. Neal & Son, Atlanta, Ga., distributor of road-building machinery and contractors' equipment, has opened a new warehouse and general offices at Columbia, S. C.

* * *

Apollo Steel Co., Apollo, Pa., has appointed H. G. Austin, Board of Trade building, Boston, its sales agent in New England. Mr. Austin formerly represented the Thomas Sheet Steel Co., Niles, O.

* * *

Crerar, Adams & Co., 3550 South Morgan street, Chicago, has changed its name to George B. Howard & Co. and will continue the manufacture of the same line of metal products as before.

* * *

Executive offices of the Russell & Erwin division of the American Hardware Corp., New Britain, Conn., have been removed to Washington street, where larger space is available.

* * *

Stephen J. Meade, dealer in iron and steel, member of the London iron and steel exchange and the Brussels metal exchange, with offices at London, Antwerp, Brussels and Dusseldorf, has established an office at 154 Nassau street, New York, room 1424. He will carry structural steel, sheets and wire products.

* * *

P. H. Weber Co., Hoopeston, Ill., automobile accessory manufacturer, has moved its plant and offices to Racine, Wis., occupying part of the former plant of the Racine-Sattley Wagon & Carriage Works.

* * *

Rockford Milling Machine Co. and Rockford Tool Co., Rockford, Ill., have been consolidated under the name Sundstrand Machine Tool Co. H. L. Olson will be secretary and general manager and G. D. Sundstrand chief designer.

* * *

Monitor Controller Co., Baltimore, Md., manufacturer of automatic controllers and resistors, has estabilshed a branch office at 136 Federal street, Boston, room 417, in charge of Nelson A. McCoy.

* * *

Whitney-MacDonald Inc., 2320 East Tioga street, Philadelphia, has changed its name to the MacDonald Corp. Robert H. Booth is vice president and general manager. The company manufactures pipe bends, welded headers and similar devices.

Construction and Enterprise

Concise and Timely Business Building Opportunities
from the Field of Industry

BIRMINGHAM, ALA.—Birmingham Electric Co., J. S. Pevear vice president, Empire building, is having plans made for a 2-story building 120x150 feet for repair shop, installation department, and gas and electric distribution station.

HOT SPRINGS, ARK.—Missouri Pacific railroad, E. A. Hadley, chief engineer, St. Louis, is planning to build repair shops here, including two heating plants, two train sheds, 50,000-gallon water tank and large cinder conveyor.

BERKELEY, CALIF.—Steel Pipe & Tank Co., Harrison and Fourth streets, is having plans made for rebuilding the burned portion of its plant.

LOS ANGELES—Los Angeles Railway Co., Railway building, will build a 1 and 2-story automobile repair shop 100x300 feet.

LOS ANGELES—Samson Tire & Rubber Corp. has given contract to Baker Iron Works for a machine shop 58x100 feet, with 5-ton crane and runway.

RICHMOND, CALIF.—Republic Steel Package Co. is having plans made for rebuilding its burned plant, for which considerable equipment will be required.

HARTFORD, CONN.—Hart & Hegeman Mfg. Co., 342 Capital avenue, will build an additional story on its 2-story plant for the manufacture of hardware.

WILMINGTON, DEL.—Lobdell Car Wheel Co., C street, will rebuild burned portion of its south foundry.

RAYMOND, GA.—Central of Georgia railroad, C. K. Lawrence chief engineer, Savannah, Ga., has let contract to Fairbanks-Morse Co., Chicago for 150-ton coaling station, with 5000-ton storage plant.

ROME, GA.—Hanks Stove & Range Co. will enlarge its plant, including construction of a new warehouse plant.

KELLOGG, IDAHO—Bunker Hill & Sullivan Co. and the Hecla Mining Co. will build an electrolytic zinc plant at Kellogg to cost $1,000,000.

CHICAGO—Economy Pump Machinery Co., R. H. Thomas president, 1122 Curtis street, will build a 1 and 2-story plant.

CHICAGO—W. Glader Co., 210 North Ann street, machinery manufacturer, will build a 2-story shop addition 50x100 feet. F. E. Davidson, 3 Dearborn street, is architect.

CHICAGO—Chicago Screw Co., 1026 Homan avenue, H. E. Penfield president, is having plans made for a 2-story plant 120 x 124 feet. J. H. Fischer, 140 South Dearborn street, is architect.

CHICAGO—Appleton Electric Co., A. T. Appleton president, 1701 Wellington avenue, has let contract to A. A. Lundstrum, 77 West Washington street, for 4-story plant 70 x 300 feet.

CHICAGO—Gillette Products Co., 19 West Austin avenue, has been incorporated with $25,000 capital to manufacture automotive devices by Charles R. Gibe, Dewitt Cleland, and R. G. Phelps. Lee, Phelps & Cleland, 155 North Clark street, are correspondents.

CHICAGO—Wood Hydraulic Hoist & Body Co., Detroit, has bought 198x300 feet at Thirty-seventh street and Princeton avenue and will cover it with combined factory and warehouse. O. W. Miller is manager of Chicago branch.

Where additional information is presented, reference is made to date of issue in which previous item appeared.

CHICAGO—Liko Metal Products Co., 6028 South State street, has been incorporated with $30,000 capital to manufacture radio cabinets, humidifiers and other metal products by M V. Lilliston, J. M. Kopf and J. J. Sankstone, 105 North Clark street.

CHICAGO—Advance Railway Equipment Co., 80 East Jackson boulevard, has been incorporated with $20,000 capital to manufacture railway specialties, supplies and equipment by F. C. Rutz, H. E. Anderson and F. A. Welsh. Welsh & Welsh, Rockford, Ill., are correspondents.

CHICAGO—Illinois Waterway, Barge & Dock Co., 38 South Dearborn street, room 1400, has been incorporated with $175,000 capital to build boats and barges by R. S. Tuthill, Harold Bascom and M. E. Burgess. Winston, Strawn & Shaw, First National Bank building, are correspondents.

CHICAGO—Alexander & Withers Mfg. Co. Inc., 54 West Lake street, has been incorporated with $20,000 capital to manufacture tools, dies, metal products and automobile specialties, by James Withers, Elizabeth E. Withers and Vern P. Alexander. Samuel F. White Jr., 10 South La Salle street, is correspondent.

NILES CENTER, ILL.—Chicago Rapid Transit Co., 72 West Adams street, Chicago, will build a 1-story repair shop 200x225 feet. A. Gerber, 72 West Adams street, Chicago, is architect.

FRANKFORT, IND.—Clover Leaf division of the New York Central railroad is having plans made for a machine shop here, 120 x 180 feet, brick, concrete and steel. F. R. Ramsey, Frankford, is chief engineer.

GARY, IND.—Gary Heat, Light & Water Co., F. W. VanSise superintendent, Fifth avenue and Broadway, will build a 3-story garage and warehouse 125x125 feet at Ninth and Madison streets.

INDIANAPOLIS, IND.—Morrison & Risman Co. Inc., Buffalo, N. Y., R. L. Morrison vice president and treasurer, will build plant 105x650 feet to reconstruct frogs, crossings and other railroad track equipment.

SOUTH BEND, IND.—South Bend Engineering & Sales Corp. has been incorporated with $25,000 capital by Herbert J. Lederer, William P. Kelly, Carl W. Ginz and Henry M. Harper.

BALTIMORE, MD.—A. Weiskittel & Son Co., East Lombard and Twelfth streets, manufacturer of stoves and castings, is having plans made for a 3-story addition 150x280 feet.

CONOWINGO, MD.—Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., has been awarded contract for electrical equipment of hydroelectric plant being built by Stone & Webster on Susquehanna river near here.

HAGERSTOWN, MD.—Victor Cooler Door Co., recently incorporated with $250,000 capital to manufacture refrigerating equipment by Raymond J. Funkhouser, Aaron M. Horst and Herbert H. Jennings, is preparing a plant for production of its specialties.

BOSTON—Dorchester Iron & Metal Co. has been incorpoorated with $25,000 capital to manufacture and dispose of iron, tin and other kinds of metal by Thomas W. Morris, Arlington, Mass., Marion E. Steeves, Somerville, Mass., and Grace Burke, Boston.

BOSTON—Universal Light Co. has been incorporated with $20,000 capital to manufacture gas and electric light fixtures and supplies by A. Joel Canter, president, 302 Convent avenue, New York; Lena Lavine, treasurer, 1607 Commonwealth avenue, Boston, and Jacob I. Polak.

HOLYOKE, MASS.—George W. Prentiss & Co., wire manufacturer, Holyoke, Mass., is increasing capacity and enlarging manufacturing space. Part of the plant formerly used by the Holyoke Co., which removed to South Holyoke, has already been occupied by the company.

WORCESTER, MASS.—Reed-Prentice Corp. has been incorporated with $634,000 capital to manufacture machine tools and machinery by Robert C. Cutler, president, 61 Heath street, Brookline, Mass.; Francis Cummings, treasurer, 9 Joy street, Boston, and Henry R. Guild, Ocean street, Nahant, Mass.

DETROIT—F. J. Lamb Co. is inquiring for a horizontal boring mill, a vertical boring mill, a vertical shaper, radial drill and power punch press.

DETROIT—Wolverine Tube Co., Charles C. Limbocker president, 1411 Central street, has let contract to Everett L. Jones Inc., 9101 Washington boulevard, for 2-story plant addition.

DETROIT—Universal Products Co., 1458 East Woodbridge street, J. B. Flick president, manufacturer of automobile parts, will build a 2-story plant at Fordson, Mich., for which equipment will be required.

DETROIT—D-M Mfg. Co. Inc. has been incorporated with $10,000 capital and 5000 shares no par value to manufacture household supplies by Dorr Miller, 2243 Pingree avenue, William K. Ackerman and Ferdinand Sizancek, Detroit.

DETROIT—American Blower Co., James Inglis president, 6004 Russell street, will build a 1-story addition to its fan shop 142 x 164 feet at Russell street and Harper avenue. Smith, Hinchman & Grylls, Marquette building, are architects.

HILLSDALE, MICH.—Richard Bros. Die Works, O. K. Richard and Clement C. Richard, 1560 East Milwaukee street, Milwaukee, will build a 1-story plant 90 x 340 feet.

MT. CLEMENS, MICH.—American Enamel Products Co. is remodeling the plant formerly occupied by the Transport Truck Co. and is buying equipment to convert it to its own use.

PONTIAC, MICH.—Oakland Motor Car Co. has let contract to the Austin Co., Cleveland, for a 1 and 2-story unit and power house.

Iron and Manganese Ores and Minerals

Iron Ore

LAKE SUPERIOR ORES

Per Gross Ton Lower Lake Ports	
Old range bessemer, 51½ per cent iron	$4.55
Mesabi bessemer, 51½ per cent iron	4.40
Old Range nonbessemer, 51½ per cent iron	4.40
Mesabi nonbessemer, 51½ per cent iron	4.25

EASTERN LOCAL ORES

Cents per unit delivered at Eastern Pennsylvania and New Jersey furnaces	
Foundry and basic 53 to 63 per cent	9.00 to 10.50
Copper free low phosphorus 53 to 65 per cent	nominal

FOREIGN IRON ORE

Cents per unit, f.o.b. cars Atlantic ports	
Spanish low phosphorus, 52 to 54 per cent	10.00 to 11.00
North African low phosphorus	9.25 to 9.75
Swedish and Norwegian low phosphorus, 68 per cent	10.25 to 10.75
Swedish foundry or basic, 66 to 68 per cent	9.00 to 9.50
Spanish foundry or basic, 50 to 54 per cent	8.75 to 9.25
North African foundry and basic 50 to 54 per cent	8.50 to 9.50

Manganese Ore

Prices do not include duty at rate of 1 cent per pound of metallic manganese contained.

Brazilian, minimum 47 per cent.....nominal
Indian minimum 47 per cent.....nominal
Caucasian, 53 to 55 per cent.....
Washed .....40 cents c.i.f. tidewater

Fluor Spar

85 and 5 per cent grade

Washed gravel, Kentucky and Illinois mines, per net ton $17.50 to 18.00
Washed gravel, imported duty paid eastern tidewater, per net tons ..... 17.00 to 18.00

Main structure two stories 150x1300 feet with others 450x900 feet and 875x700 feet.

AUSTIN, MINN.—Austin Heating Co., F. S. Schlender president, is having plans made for a steam plant for heating service.

ST. LOUIS—Asbestos Shingle Slate & Sheathing Co., J. Lededover superintendent, Ambler, Pa., is having plans drawn for a plant here.

ST. LOUIS—Missouri Pacific Railroad Co., Railway Exchange building, E. A. Hadley chief engineer, is having plans made for a 1-story addition to its engine house and machine repair shops at Nevada, Mo.

ST. LOUIS—American Insulation Co., T. J. Jackson manager, Roberts avenue and Stokley streets, Philadelphia, is considering building a plant at Riverview drive and Burlington tracks.

ST LOUIS—Robert Ziegler & Son Machine Co. has been incorporated with $15,000 capital to manufacture machinery for manufacture of metal products by William Peters, 3520 Michigan avenue. St. Louis, Aloys A. Buescher and Charles Buescher.

CAMDEN, N. J.—Public Service Electric & Gas Co. plans large extensions to its plant at Camden, equipment including waste heat boilers, centrifugal blowers, steam accumulator. Addition will be 32 x 67 feet with extension 23 x 35 feet.

HOBOKEN, N. J.—The Erie railroad has presented a petition to the city commissioners, asking the vacation of four street ends joining the railroad tracks on the Western boundary of the city. It was announced that the railroad planned to build shops on the property.

IRVINGTON, N. J.—William J. Neugebauer Inc. has been incorporated to manufacture electrical machinery with $50,000 capital by William J. Neugebauer, Ellis J. Neugebauer and George Neugebauer. Albert W. Harris, Newark, N. J., is attorney.

MONTCLAIR, N. J.—Combination Selector Co. has been incorporated with $30,000 capital to manufacture mechanical instruments by Paul M. Rainey, Montclair; Homer M. Timbers, Glen Ridge; Arthur H. Adams, LaGrange, Ill. George E. Quigley, New York, is attorney.

NEWARK, N. J.—Weber & Scher Mfg. Co., 263 Sussex avenue, machinery manufacturer, will build a 1-story machine shop addition.

NEWARK, N. J.—Metropolitan Steel Casting Co. has been incorporated with $100,000 capital to manufacture steel castings by John A. Williams, Irvington, N. J.; Joseph A. Tedesco, Belleville, N. J.; John DeGraw, Newark.

NEWARK, N. J.—Franklin Oil Heating Equipment Co. of Newark has been incorporated with $100,000 capital to manufacture oil-burning equipment by Henry S. Siegel, William Gross and Isadore Siegel. William L. Greenbaum, Newark, is attorney.

NEWARK, N. J.—L. J. Wing Mfg. Co., Victoria street, manufacturer of fans and blowers, has let contract to Sutherland-Allen Inc., for a 1-story addition 60x150 feet. Fletcher-Thompson Inc., 415 Lexington avenue, New York, is architect.

ROCKAWAY, N. J.—Rockaway Steel & Iron Co. has been incorporated with 1000 shares no par value to deal in metals by Edward Ehlers, Florence Ehlers, Montclair; Richard J. Bonne, Rockaway. King & Vogt, Morristown, N. J., are attorneys.

WEEHAWKEN, N. J.—J. Nazley Co. has been incorporated with $350,000 capital and 3500 shares no par value by Jean Nazeley, Weehawken, N. J.; John N. Thomas, New York, and Victor J. Tipula, Grantwood, N. J.

BATAVIA, N. Y.—Batavia Steel Plate Construction Co. has been incorporated with 200 shares no par value by B. Haten, E. B. Wescott and O. A. Epp. E. A. Washburn, Batavia, is attorney

BROOKLYN, N. Y.—Hillside Iron Works has been incorporated with $20,000 capital by M J. Ramriez, I. M. Meir and J. Stewart. Corner, Bell, Russell & McNulty, 375 Pearl street, is attorney.

BROOKLYN, N. Y.—Jamaica Iron Works has been incorporated with $10,000 capital by E. Cohen, A. E. Yaffe and R. Eisenstadt. A. M. Chamow, 51 Chambers street, New York, is attorney.

BROOKLN, N. Y.—Brettler Steel Tank Works has been incorporated with $10,000 capital to manufacture storage tanks by J. Hurwitz, S. Hurwitz and M. Brettler. S. J. Cutler, 50 Court street, Brooklyn, is attorney.

BROOKLYN, N. Y.—J. P. J. Heating Corp. has been incorporated with $500 capital to operate a foundry by H. Jacobs, I. Jacobs and C. Peterson. L. Rabbino, 152 West Forty-second street, New York, is attorney.

BROOKLYN, N Y.—Kusel & Eisen have been incorporated with $7,500 capital to deal in iron and steel, by M. Kusel, J. L. Eisen and E. Benjamin. Feuerstein & Vogel, 26 Court street, are attorneys.

BROOKLYN, N. Y.—South American Surfacing Co. has been incorporated with $10,000 capital to manufacture surfacing machines by O. Barash, S. Michael and L. Seitz. B. D. Barnett, 44 Court street, is attorney.

BUFFALO—Orna-Metal Corp. has been incorporated with $300,000 capital and 10,000 shares no par value to manufacture iron work by H. N. Hirschberg, W. J. Seligman and R. A. Williams. Falk, Phillips & Schenk, Buffalo, are attorneys.

DANSVILLE, N. Y.—Allen Automatic Tag Machinery Corp. of America, recently incorporated with $300,000 capital to manufacture machinery for making tags, S. E. Allen president, is seeking location for a plant and will buy equipment and material.

NEW YORK—Pyrex Oil Burner has been incorporated with 300 shares no par value by E. B. Rodgers, and B. Prigozen. P. M. Abrahams, 522 Fifth avenue, is attorney.

NEW YORK—O. P. Clayton Dredging Co. has been incorporated wtih 200 shares no par value by W. Payne, A. S. McGrover and R. C. Emery, 404 Riverside drive.

NEW YORK CITY—The Romaine Antique Art Iron Works, 255 Center street, recently suffered $2,500 by fire. Plans for rebuilding have not been announced.

NEW YORK—Broadwin Co, 750 Grand avenue, has been incorporated with $20,000 capital to manufacture machinery and motors by L. Broadwin and S. Broadwin.

NEW YORK—Combined Hotel-Restaurant Kitchen Equipment Corp. has been incorporated with $10,000 capital by L. Trow, A. Becker and M. Meltzer. S. Harnick, 305 Broadway, is attorney.

NEW YORK—Mustomatic Specialties has been incorporated to manufacture machinery with 100 shares no par value by J. G. Coffin, I. Levy. F. M. Silverstein, 342 Madison avenue, is attorney.

NEW YORK—I. & R. Metal Stamping Co. has been incorporated with $5000 capital to manufacture metal products by H. Rashbaum and Z. Israel. B. Machinist, 277 Broadway, is attorney.

NEW YORK—Automatic Selective Service has been incorporated with $100,000 capital to manufacture vending machines by R. Orkin, and G. H. Bronstein. L. Hess, 1440 Broadway, is attorney.

NEW YORK—Art Metal Radiator Cover Co. of New York has been incorporated with $10,000 capital by H. L. Dewey, W. J. Cunningham and W. H. Miner. McDonnell & Lebett, Woolworth building, are attorneys.

NEW YORK—I-D-Lite Sewing Machine Lamp Co. has been incorporated with $10,000 capital by I. I. Safferson, M. Sandak and H. M. Sandak. E. I. Herbst, 220 Broadway, is attorney.

NEW YORK—Dreadnought Engineering Corp. has been incorporated with $1000 capital to manufacture automotive parts by I. Zimmer-

man, R. Zimmerman and E. Simon. N. Bardach, 5 Beekman street, is attorney.

NEW YORK—Charles S. Langberg & Co. has been incorporated with $15,000 capital to manufacture sheet metal devices by C. Langberg, M. Langberg and H. Blatt. B. P. Oringer, 570 Fifth avenue, is attorney.

NEW YORK—Rotogravure Engineering Corp. has been incorporated with 100 shares no par value to manufacture printing presses by A. F. Crane, M. Allen and D. Schmerl. A. Shalek, 111 Broadway, is attorney.

NEW YORK—Parrelectric Export Corp. has been incorporated with $10,000 capital to manufacture wiring devices by C. McK. Parr, G. M. Parr and C. E. Merrill. Reynolds, Richards, McCutcheon & Logan, 68 William street, are attorneys.

NORTH TONAWANDA, N. Y.—Rand Kardex Bureau is having plans made for a 4-story addition to the works of its subsidiary, Safe Cabinet Co., Marietta, O. Schenck & Williams, Third National Bank building, Dayton, O., are architects.

PEEKSKILL, N. Y.—Metalcraft Engineering has been incorporated with $30,000 capital to manufacture automotive parts by T. D. Finzo, D. S. McGrath and A. H. Beauline. J. Dempsey, Peekskill, is attorney.

RICHMOND HILL, N. Y.—Gode Bros., 9149 118th street, machine and repair works, will build a 1-story addition 90x100 feet from plans by H. T. Jeffrey Jr., 155 Jamaica avenue, Jamaica, N. Y.

ROCHESTER, N. Y.—Barber-Donovan has been incorporated with 1000 shares no par value to manufacture electric motors by O. A. Barber, G. H. Donovan and T. J. Searle. Johnson & Searle, Rochester, are attorneys.

ROCHESTER, N. Y.—Spray Dent Corp. has been incorporated with $20,000 capital to manufacture machinery by F. E. Devans, W. C. O'Brien and H. R. Reif. Hubbell, Taylor, Goodwin & Moser, Rochester, are attorneys.

CINCINNATI—Luers Inc. has been incorporated with $5000 capital to manufacture tools by J. Clifford Luers, W. Ray Skirvin, Hugh H. Bates and Clarence R. Griewe.

CINCINNATI, O.—Wrightford Transmission Co., Court and Harret streets, has been incorporated to manufacture gear shift transmissions for Ford cars by George McG. Morris, Arthur Pletz and Sam Blackburn. Part of plant of Morris Machine Tool Co. is being occupied for its production.

CLEVELAND—Acme Mfg. Co., Hyman Kronerberg manager, 2114 Woodland avenue, will build a 2-story factory 54 x 170 feet, Orange avenue near East Twenty-second street.

CLEVELAND—Willard Storage Battery Co. has given contract to H. K. Ferguson Co. for a 1 and 3-story reinforced concrete addition to its plant at 131st street.

CLEVELAND—Domestic Electric Co., A. Duffer president, 7723 St. Clair avenue, has let contract to J. C. F. Shafer Co., Smythe building, for 1-story plant 40 x 140 feet.

CLEVELAND—J. L. Hunting will build a manufacturing building 75x160 feet, two stories, which has been leased to the Columbian Vise & Mfg. Co. Plant will be at 9021 Bessemer avenue.

DAYTON, O.—Delco Light Co., Moraine City, O., will build a large addition covering 36 acres of floor space. E. G. Biechler is president.

DANVILLE, PA.—Jones Foundry Co. is building a plant at South Danville.

ERIE, PA.—Perry Iron Works Co. has obtained a permit to build a laboratory building at the foot of Wayne street, in connection with its blast furnace plant.

HOLMESBURG JUNCTION, PA.—The John J. Nesbit Co. Inc., Atlantic City, N. J., has awarded general contract for a new plant here to the Bowden Construction Co., Philadelphia, including a manufacturing and storage building, boiler house and office building. The Ballinger Co., Philadelphia, is architect.

CHATTANOOGA, TENN.—United States Cast Iron Pipe & Foundry Co. Bryce and Twenty-second streets, has bought a site and is considering construction of a foundry.

CHATTANOOGA, TENN.—Dwight P. Robinson & Co., New York, has been given contract by Southern railway for complete locomotive terminal here, consisting of reinforced concrete roundhouse, machine shop, boiler, smith and tank shop, wash and locker buildings, office, oil and power house.

SAN JUAN, TEX.—Valley Iron Works has been incorporated with $15,000 capital by H. J. Herron, and L. M. Herron.

RICHMOND, VA.—Automatic Arms Corp. has been incorporated with $25,000 capital by Charles Laurens, 10 South Third street, and associates.

ABERDEEN, WASH.—Union Oil Co. of California has leased waterfront site and will build three oil storage tanks, 10,000-barrel, 25,000-barrel and 80,000-barrel capacity.

LACROSSE, WIS.—Kelley Tool & Mfg. Co. has been incorporated with $30,000 capital to manufacture machinery, tools and mechanical appliances by George W. Kelley, Albert N. Weielstad and Arthur W. Scharpf.

MILWAUKEE—Kearney & Trecker Corp. is adding a third story to its office building to allow enlargement of its engineering department.

Refractories

FIRE CLAY BRICK

Per 1000 f.o.b. works

Pennsylvania, No. 1	$40.00 to 43.00
Pennsylvania, No. 2	35.00 to 38.00
Ohio, No. 1	40.00 to 43.00
Ohio, No. 2	35.00 to 40.00
Illinois, No. 1	40.00 to 43.00
Illinois, No. 2	35.00 to 38.00
Kentucky, No. 1	40.00 to 43.00
Kentucky, No. 2	38.00 to 40.00
Missouri, No. 1	40.00 to 43.00
Missouri, No. 2	35.00 to 38.00
Maryland, No. 1	43.00 to 47.00
Maryland, No. 2	39.00 to 42.00
Georgia and Ala. No. 1	40.00 to 45.00
Georgia and Ala. No. 2	30.00 to 35.00

SILICA BRICK

Pennsylvania	40.00
Chicago	49.00
Birmingham	48.00 to 52.00

MAGNESITE BRICK

Per Net Ton Seaboard Base

9 x 4½ x 2½	65.00

CHROME BRICK

(Per Net Ton)

9 x 4½ x 2½	45.00

Business in Canada

CALGARY, ALTA.—The Western Steel Products Co. will build addition to its plant here at a cost of $15,000. The Bennett & White Construction Co. has the general contract.

EDMONTON, ALTA.—The City Council proposes to spend $275,000 on new unit for local power plant. D. Mitchell is commissioner.

WINNIPEG, MAN.—Scottish Canadian Minerals, Ltd., has been incorporated with capital stock of 200,000 shares of no par value, to mine, smelt and refine ores, metals and minerals, by Philip Ney, Nathan B. Golsof, Daniel Budd, and others.

BELLEVILLE, ONT.—Fire due to explosion completely destroyed the plant of the National Castings, June 26. The loss amounted to several thousand dollars, partly covered by insurance.

COBALT, ONT.—The W. J. Mitchell Diamond Drill Co. Ltd. has been incorporated with $50,000 capital by William S. Walton, William H. Beatty, Percy C. Finlay, and others.

FORT WILLIAM, ONT.—At a special meeting of the city council. D. G. Calvert, manager of the Fort William Paper Co., outlined proposals of the company to extend its present plant to represent an expenditure of $12,000,000. It is the intention of the company to erect a sulphite mill this year at a cost of about $1,000,000.

HALIBURTON, ONT.—Canada Radium Mines, Ltd. has been incorporated to mine smelt and refine ores, metals and minerals, with 2,500,000 shares of no par value, by Cecil G. Frost, Leslie M. Frost, Orville Culbert and others.

HAMILTON, ONT.—Campbell Gibson Co. Ltd. has been incorporated with $40,000 capital to manufacture oil burners, hot water heaters, garbage incinerators, by Thomas W. Campbell, William Hazell, and Leslie W. Gay.

KIRKLAND LAKE, ONT.—Plans for financing and building a 200-ton mill on the property of the Sylvanite Gold Mines, Ltd., here have been completed and bids will be called for construction work and equipment soon.

OTTAWA, ONT.—The Dominion government proposes to erect an office building here at a cost of $9,000,000.

OTTAWA, ONT.—Clericy Mines, Ltd., has been incorporated with $2,000,000 capital to mine, smelt and refine ores, metals and minerals, by John S. Stratton, Gordon H. Code, and William Davidson.

SAULT STE. MARIE, ONT.—Dr. J. McCarthy of Sault Ste. Marie announced that at a board meeting in Toronto recently the McCarthy-Webb Godreau Mines, Ltd., passed estimates approximating $25,000, covering the outlay for the further developing of the company's property, the amount to be spent on machinery. B. R. Gordon is engineer.

TORONTO, ONT.—V. & S. Motors Ltd., has been incorporated to manufacture motors, etc., with $50,000 capital.

TORONTO, ONT.—The Consumers' Gas Co., 19 Toronto street, has taken out a permit for condenser and engine house at Booth and Eastern avenue to cost $85,000.

TORONTO, ONT.—Montreal Rail & Harbor Terminals Ltd. will build a terminal warehouse and cold storage plant, ten stories, covering 600,000 square feet floor space, reinforced concrete.

TORONTO, ONT.—Parora Mines Ltd. has been incoorporated to mine, smelt and refine ores, metals and minerals, with $1,000,000 capital by Lemuel Ostrander, Edward B. Hegler, William L. King and others.

TORONTO, ONT.—The board of education is in the market for tools for technical schools for which bids will be received until July 6 by W. W. Pearse, secretary-treasurer, 155 College street, including engine lathes, sheet metal machinery, grinding machine and other tools.

DRUMMONDVILLE, QUE.—The Foundation Co. of Canada, Ltd., Medical Arts building, Montreal, Que., has been awarded general contract for a $7,000,000 artificial silk manufacturing plant here for the Canadian

Cellulose, Ltd., Cumberland, Maryland.

DRUMMONDVILLE, QUE.—The contract for the construction of the new $7,000,000 plant of the Canadian Celanese, Ltd., has been awarded to the Foundation Co. of Canada, Ltd., including seven buildings, railway sidings, roads, walks, sewers, and tunnels.

HULL, QUE.—The Hull plant of the Canada Cement Co., which has been closed for a number of years, will be shortly reopened.

HULL, QUE.—The Canadian Glass Products, Ltd., a new company, has purchased the building formerly occupied by the Lion Mead Rubber Co. at Wrightville and will establish a sand pulverizing plant. Edouard Brunet, 187 Water street, has general contract.

MISTASSINI, QUE.—The Mistassini Power & Paper Co. will start work immediately on a 200-ton newsprint mill in Saguenay county, to cost $8,000,000. E. A. Walberg, Toronto, Ont., is president of the company.

MONT JOLI, QUE.—Beaudet & Co. will build a machine shop here and will purchase complete machinery and tools.

MONTREAL, QUE.—Canadian Carbonate Ltd. will erect an extensive plant on St. Maurice street for the purpose of purifying carbonic acid gas.

MONTREAL, QUE.—Aristide Pigeon, 815 Carriere street, is building garage and auto repair plant here and will purchase equipment.

MONTREAL, QUE.—According to A. P. Wills, president of Wills & Co., manufacturers of pianos, etc., the company will build and Drummond streets. Bids will be placed a large addition to its plant at St. Catharine for construction work and considerable equipment will be purchased. Ross & Macdonald, Montreal are architects.

NORANDA, QUE.—The Noranda Mines, Ltd., has placed an order with the Canadian Bridge Co. for structural steel in connection with smelting plant to be erected here. Bids are now being called for smelting plant equipment, etc.

RIVIERE DU LOUP, QUE.—H. P. Monsarrat will rebuild foundry here recently destroyed by fire and is interested in the purchase of complete equipment.

SHERBROOKE, QUE.—The Sherbrooke Land & Power Co. is receiving estimates for power plant here. Trotter & Cate, Montreal, Que., are the engineers.

ST. ANNE DE BEAUPRE, QUE.—The Ste. Anne Power & Paper Co. has awarded general contract to Wm. I. Bishop, Ltd., 10 Cathcart street, Montreal, for a $5,000,000 paper mill and power plant here.

ST. JEROME, QUE.—The Dominion Rubber Co. is building addition to plant.

ST. JEROME, QUE.—The Colonial Piano Co., whose factory at St. Therese, Que., was recently destroyed by fire with a loss of $175,000 proposes to rebuild its plant here, and is now negotiating with local town council in this connection.

ST. JOHNS, QUE.—The Franco Canadian Dyers Co., plans factory here to cost $150,000.

THREE RIVERS, QUE.—The Canadian International Paper Co. Ltd., Notre Dame street, Three Rivers, proposes to build 58,000 horsepower addition to power plant at Farmer Rapids near Hull, Que.; also contemplates the construction of a new power plant at Six Portages, near Burbidge, Que. on the Gatineau river, and the construction of a dam on the Nigger Rapids near Maniwaki, Que.

MOOSE JAW, SASK.—Bids will be received by Mayor W. W. Davidson, until August 16, for one 5000-kilowatt steam turbogenerator; and one surface condenser. Plans and specifications with J. D. Peters, electrical superintendent.

New Trade Publications

BRINELL TESTING—A proving ring to check the accuracy of the brinell testing machine is shown in a folder published by the Morehouse Machine Co., York, Pa.

GAS COMPRESSORS—Sullivan Machinery Co., Chicago, has issued a bulletin describing compressors for gas lines. The features are shown with some typical installations.

PLANT EQUIPMENT—Colonial Iron Works Co., Cleveland, has published a catalog of equipment suggestions for plant improvement covering its specialties.

ALUMINUM—Aluminum and its alloys in the fabrication of the new gasoline-electric passenger busses is the subject of a pamphlet issued by the Aluminum Co. of America, Pittsburgh.

PUMPING—Automatically controlled centrifugal pumps for mine dewatering purposes is described in a 22-page bulletin issued by Barrett, Haentjens & Co., Hazelton, Pa. Advantages of using this method also are given.

SQUIRREL CAGE MOTORS—Century Electric Co., St. Louis, has issued a leaflet describing details of construction of its squirrel cage induction polyphase motors. Illustrations and text show the features of this motor and indicate its construction.

VOLTAGE CONTROL—A current publication by the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., covers its regulators for generator-voltage control. It describes the rheostatic type of automatic voltage regulators and special regulator application.

FLUSH VALVES—Bridgeport Brass Co., Bridgeport, Conn., has published an instruction and data book covering installation and repair of its various types of flush valves, giving instruction for disassembling and care of the mechanism.

ELECTRICAL—General Electric Co., Schenectady, N. Y., has published four pamphlets describing various equipment for power installations. The pamphlets include two on squirrel cage motors, one on explosion chambers for oil circuit breakers and one on automatic starting compensators for induction motors.

PRODUCTION TOOLS—A small tool catalog has been issued by Scully-Jones & Co., Chicago, covering its line of production tools for drilling, tapping, reaming and milling. Practical suggestions for their use and complete data as to size are included.

INSULATION—Celite Products Co., New York, has issued a leaflet covering its insulating material and a special concrete produced by mixing the insulating material with ordinary concrete. Practical application of these materials is shown in the illustrations.

DIAL THERMOMETERS—Foxboro Co. Inc., Foxboro, Mass., has issued a bulletin covering its indicating dial thermometers for long-distance reading. They bring the reading of distant temperatures to the office of the executive.

ABRASIVES—Various types of grinding wheels and abrasives manufactured by the Abrasive Co., Philadelphia, are described in a 210-page catalog recently published. Sizes and prices of wheels and grain size and prices of abrasives are given.

BLOWER SYSTEMS—Collecting, conveying and ventilating blower systems manufactured by the Kirk & Blum Mfg. Co., Cincinnati, are described in a 50-page catalog. Illustrations showing typical industrial installations show the various applications of these systems.

MOLDING MACHINES—Sand throwing molding machines manufactured by the Beardsley & Piper Co., Chicago, are described in a 48-page catalog recently issued. The catalog is illustrated well with photographs of typical installations.

SPEED REDUCERS—A catalog by the Philadelphia Gear Works covers the subject of speed reducers with figures, charts and illustrations. It gives the advantages of these devices in power transmission and illustrates its four types, spur gear, worm gear, spiral-bevel and herringbone.

GRAPHITE—An outline of the six important uses of graphite in industry is given in a folder issued by George F. Pettinos, Philadelphia. The four properties of smooth, flaky structure, black color, heat resistance and inertness to chemicals render graphite almost indispensable for certain purposes.

SAW AND KNIFE FITTING—Machinery Company of America, Big Rapids, Mich., has issued a bulletin covering its devices for conditioning knives and saws, more massive machinery with refinements for high speed production. The equipment includes grinders, gummers and balancing scales.

CRANES—Orton Crane & Shovel Co., Chicago, has issued a bulletin describing two models of its convertible cranes and attachments. It is fully illustrated with views of cranes at various classes of work. A wide variety of uses is shown, and the use of various attachments indicated.

PYROMETERS—Bowen Instrument Co., Leeds, England, has published a pamphlet describing its radiation pyrometer for determining temperatures over 500 degrees Centigrade. Construction, principles of operation and the advantages of this type of instrument are enumerated.

PORTABLE ELEVATORS—Use of portable elevators for stationary purposes is described and illustrated in a bulletin by the Revolvator Co., Jersey City, N. J. It covers inside and outside work, for lifting to a gallery or mezzanine, from floor to floor from a hatchway or shaft, to a balcony or from one floor level to another.

PLANT CONVENIENCES—A variety of leaflets has been issued by the Paul B. Huyette Co., Philadelphia, covering a number of its specialties for use in the steam plant for more efficient operation. They include pressure and water gages, steam traps, low water alarms, stoking tools, boiler cleaners, damper controls and others.

WABIK METAL SHEETS

"The Base for Distinctive Enameling"

"Wabik Metal" Sheets are used extensively for Stove Door Panels, Splasher Backs, Broiler Pans, Table Tops, Refrigerator Linings, Signs and all other flat work that calls for attractive and durable Vitreous Enameling.

Sheet Steel used as a base for Vitreous Enameling is of a distinctive character. It possesses characteristics that only Vitreous Enameling requires.

Therefore the makers of Mansfield "Wabik Metal" devote their efforts to specialized production of sheets for Vitreous Enameling and the development of those qualities in a sheet that are so necessary to the permanence and durability of the enameled surface.

"Wabik Metal" Sheets have just the right porosity to provide a permanent grip for the enamel, and they are guaranteed against warping and fracturing.

Mansfield Sheet & Tin Plate Company

Mansfield, Ohio

District Sales Offices:
12-237 General Motors Bldg., Detroit, Mich.
410 Pierce Bldg., St. Louis, Mo.
1106 National City Bldg., New York, N. Y.
2002 Union Trust Bldg., Cleveland, Ohio
1504 West Venango Street, Philadelphia, Pa.

Contributing Member
SHEET STEEL
TRADE EXTENSION COMMITTEE

District Sales Offices:
1403 Merchants Bank Bldg., Indianapolis, Ind.
1020 Union Trust Bldg., Cincinnati, Ohio
640 Endicott Bldg., St. Paul, Minn.
237 Rialto Bldg., San Francisco, Calif.
509 Wilcox Bldg., Los Angeles, Calif.
1426 L. C. Smith Bldg., Seattle, Wash.

Discounts and Extras

Steel Pipe

Pittsburgh and Lorain basing discounts, jobber's carloads.

Evanston, Ill., and Indiana Harbor, Ind., take differential 2 points less discount or $4 per ton higher net.

Chicago takes differential 2½ points less than Pittsburgh-Lorain basis or $5 per ton higher net.

Butt Weld

	Black	Galvanized
⅛-inch	45	19½
¼ and ⅜-inch	51	25½
½-inch	56	42½
¾-inch	60	48½
1 to 3-inch	62	50½

Lap Weld

2-inch	55	43½
2½ to 6-inch	59	47½
7 to 8-inch	56	43½
9 and 10-inch	54	41½
11 and 12-inch	53	40½

REAMED AND DRIFTED

Butt Weld

1 to 3-inch	60	48½

Lap Weld

2-inch	53	41½
2½ to 6-inch	57	45½

EXTRA STRONG—PLAIN ENDS

Butt Weld

⅛-inch	41	24½
¼ and ⅜-inch	47	30½
½-inch	53	42½
¾-inch	58	47½
1 to 1½-inch	60	49½
2 to 3-inch	61	50½

Lap Weld

2-inch	53	42½
2½ to 4-inch	57	46½
4½ to 6-inch	56	45½
7 to 8-inch	52	39½
9 and 10-inch	45	32½
11 and 12-inch	44	31½

DOUBLE EXTRA STRONG

Butt Weld

½-inch	42	32½
¾ to 1½-inch	45	35½
2 to 2½-inch	47	37½

Lap Weld

2-inch	41	32½
2½ to 4-inch	43	34½
4½ to 6-inch	42	33½
7 to 8-inch	38	25½

(Note—Large jobbers obtain additional preferential discounts of 1 and 5 on black and 1½ and 5 on galvanized.)

Wrought Iron Pipe

Pittsburgh basing discounts, jobbers' carloads. Individual quotations made on delivered basis.

THREADS AND COUPLINGS

Butt Weld

¼ and ⅜-inch	+11	+39
½-inch	22	2
¾-inch	28	11
1 to 1½-inch	30	13

Lap Weld

1¼ and 1½-inch	Upon application	
2-inch	23	7
2½ to 6-inch	26	11
8 to 6-inch	28	13
7 to 12-inch	26	11

PLUGGED AND REAMED

Two points less than above

EXTRA STRONG, PLAIN ENDS

¼ and ⅜-inch	+19	+54
½-inch	21	7
¾-inch	28	12
1 to 1½-inch	30	14

Lap Weld

2-inch	23	9
2½ to 4-inch	29	15
4½ to 6-inch	28	14
7 to 8-inch	21	7
9 to 12-inch	16	2

DOUBLE EXTRA STRONG

Butt Weld

½-inch	+47½	+59½
¾-inch	+28	+40
1-inch	+34	+46
1¼-inch	+28	+40
1½-inch	+27	+39

Lap Weld

2 and 2½ inches	+13	+25
3 to 4-inch	+ 8	+17
4½ to 6-inch	+ 9	+18
8-inch	+12	

(Note—Large jobbers obtain additional preferential discounts of 1, 5 and 2½ on black and galvanized.)

Boiler Tubes

Pittsburgh less carload discounts. Carload 4 points larger

STEEL (Lap Welded)

2 and 2¼-inch	23 off
2½ and 2¾-inch	33 off
3-inch	36 off
4¼ to 3¾-inch	38½ off
4 to 13-inch	42 off

(Note—Additional discounts of 5 to 7 extra 5 per cents now being given.)

CHARCOAL IRON

1½-inch	+22
1¾-inch	+12
2 and 2¼-inch	+ 2
2½ to 3-inch	3
3¾ to 4½-inch	5

(Note—Additional discounts of 2 or 3 extra 5 per cents now being given.)

SEAMLESS COLD DRAWN

1-inch	56 off
1¼ and 1½-inch	48 off
1¾-inch	32 off
2 and 2¼-inch	27 off
2½ and 2¾-inch	35 off
3-inch	41 off
3¼ and 3½-inch	43 off
4-inch	46 off
4½, 5 and 6-inch	41 off

SEAMLESS HOT ROLLED

2 and 2½-inch	30 off
2½ and 2¾-inch	38 off
3-inch	44 off
3¼ and 3½-inch	46 off
4-inch	49 off
4½, 5 and 6-inch	44 off

(Note—Additional discounts of 2 or 3 extra 5 per cents now being given.)

SEAMLESS STEEL MERCHANT BOILER TUBES

Extras:

Add $8 per ton for more than four gages heavier than standard and add 10 per cent to theoretical weight.

Add 5 per cent for lengths over 24 feet and not over 26 feet.

Smaller tubes than 1-inch and lighter than standard gage to be sold at mechanical tubing list and discount.

Intermediate sizes and gages not listed above take price of next larger outside diameter and heavier gage.

SEAMLESS STEEL MECHANICAL TUBING

Base Discounts on New List July 1, 1925

Carbon 0.10 to 0.20 per cent.....50 to 55 off
Carbon 0.30 to 0.40 per cent.....45 to 50 off

SEAMLESS STEEL LOCOMOTIVE AND SUPERHEATER TUBES

Net prices per foot f.o.b. Pittsburgh

Outside diameter	Gage	Price
2-inch	12-gage	14¼c
2-inch	11-gage	15c
2-inch	10-gage	16c
2¼-inch	12-gage	16c
2¼-inch	11-gage	17c
2¼-inch	10-gage	18c
3-inch	7-gage	33c
5⅝-inch	9-gage	50c
5½-inch	9-gage	52c

Plus usual extras for forming and for long lengths over 18 feet and for commercially exact lengths.

Plate Extras

BASE

Rectangular plates, tank steel or conforming to manufacturers' Standard Specifications for structural steel, dated Nov. 24, 1922, or equivalent, ¼-inch thick and over on thinnest edge, (except for ¼-inch or 72 inches wide when ordered to weight in pounds per square foot—see width and gage extras), 100 inches wide and under, down to but not including 6 inches wide, 5 feet 0 inches long up to published limit in length but not over 80 feet 0 inch, are base. Extras per pound for width or diameter.

All Plates, Rectangular or Otherwise

¼-inch thick and heavier, but not less than 11 pounds per square foot, if ordered to weigh—

Over 100 inches to and including 110 inches	.05c
Over 110 inches to and including 115 inches	.10c
Over 115 inches to and including 120 inches	.15c
Over 120 inches to and including 125 inches	.25c
Over 125 inches to and including 128 inches	.50c

Plates less than ¼-inch or lighter than 11 pounds per square foot.

Over 72 inches to and including 84 inches	.10c
Over 84 inches to and including 96 inches	.20c
Over 96 inches to and including 100 inches	.30c

Over 100 inches add .35c to width extras for plates ¼-inch thick and heavier.

GAGE

Plates not Exceeding 72 inches Wide

Plates less than ¼-inch gage, to and including $\frac{7}{32}$-inch; or lighter than 10.2 pounds per square foot to and including 7.65 pounds per square foot..... .20c

Plates over 72 Inches Wide

Plates less than ¼-inch gage, to and including $\frac{7}{32}$-inch; or lighter than 11 pounds per square foot, to but not including 7.65 pounds per square foot ..... .20c

Plates ordered 7.65 pounds per square foot ..... .30c

QUALITIES

Pressing steel	.10c
Flange steel (boiler grade)	.15c
Ordinary firebox steel	20c
Stillbottom steel	.30c
Locomotive firebox steel	.50c
Marine steel	1.50c
Hull material subject to U. S. Navy Dept. Specifications for Medium or Soft Steel	.10c
High tensile hull steel subject to U. S. Navy Dept. or equivalent specifications	1.00c
Boiler steel subject to U. S. Navy Dept. Specifications, classes A and B	1.50c
Hull plates to hull specifications, required to stand cold flanging, take extra for flange steel.	

Floor Plates

Checkered plates 1.75c

Checkered plates are not furnished to sketch and are rolled from "Stock Steel" only. No physical tests will be made on checkered plates.

INSPECTION

Mill inspection .....No extra

Charges for other inspection, such as Lloyd's or American bureau of shipping, will be made by inspection bureau direct to buyer.

CUTTING

LENGTH OR DIAMETER

All Plates, Rectangular or Otherwise

Five feet and over up to published limit of length, but not over 80 feet....No extras

Under 5 feet to 3 feet inclusive	.10c
Under 3 feet to 2 feet inclusive	.25c
Under 2 feet to 1 foot inclusive	.50c
Under 1 foot	1.55c
Over 80 feet to 100 feet inclusive	.10c

Over 100 feet add .25c plus .05c for every additional 2 feet or fraction thereof.

Regular Sketches

With not more than four straight cuts. (Including straight taper plates)

Additional extra ..... .10c

Irregular Sketches

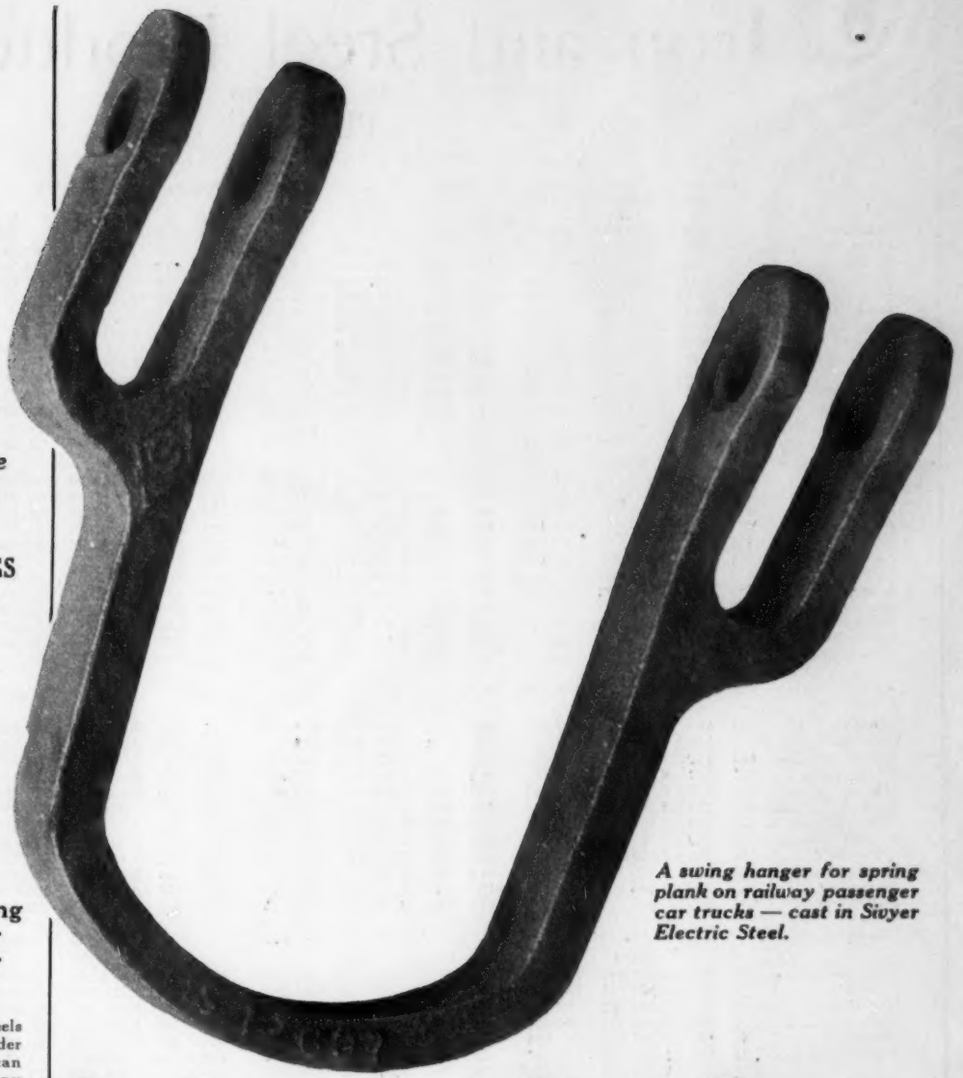
With not more than four straight cuts. (Sketches cannot be sheared wiht re-entrant angles)

Additional extra ..... .20c

Sivyer Castings Can Be Forged and Welded

SIVYER CASTINGS

DEPENDABLE



A swing hanger for spring plank on railway passenger car trucks — cast in Sivyer Electric Steel.

Replacing a 3-Piece Forging

for Longer Service—Greater Safety—Lower Costs

The safety of hundreds of railroad passengers depends to a great extent upon this Sivyer Casting. Eight of them carry the entire weight of the car as swing hangers for the spring planks. The original assembly required eight hangers, consisting of three forgings each—twenty-four pieces in all—and wear was a constant factor. Frequent replacements were necessary to reduce the danger of failure in service. On the one-piece Sivyer Hanger wearing points have been reduced by one-half, and these are localized where wear can do the least harm. Replacements are greatly reduced—and the tough strength of Sivyer Electric Steel assures safety. In addition, holes are cored. Expensive drilling and machining is reduced to a minimum. Attempts to make one-piece forging for this job, resulted in failures. Sivyer has been able to handle it successfully.

Why Sivyer is Replacing Parts Made in Other Metals and by Other Methods.

Sivyer has a complete range of steels and alloy steels that stand up under the hardest service. Sivyer Steels can be forged and welded — and many customers temper them after machining, to provide even greater strength.

Sivyer Castings are cast closely to blue print specifications. Holes are cored. As a result machining and grinding operations are reduced to a minimum. Many Sivyer Castings are assembled without machining.

Sivyer Foundry Practice assures castings of exceptional interior soundness —with the sand-free surfaces that make it easy and cheap for machining tools to work.

For those reasons manufacturers are turning to Sivyer. If you have any parts that are not giving the service that you think they should—that involve high machining or assembling costs — that break too readily in strenuous service—send blue prints of them. Recommendations will be made without obligating you in any way.

SIVYER STEEL

SIVYER STEEL CASTING COMPANY, MILWAUKEE

Iron and Steel Production

IN GROSS TONS

Pig Iron

Compiled by IRON TRADE REVIEW

	—Stacks— No.	In	——Output—— Total	Av. daily	—Stacks— No.	In	——Output—— Total	Av. daily	—Stacks— No.	In	——Output—— Total	Av. daily	—Stacks— No.	In	——Output—— Total	Av. daily
			1907				1908				1909				1910	
January	376	311	2,174,801	70,155	398	139	1,081,813	34,897	406	234	1,787,473	57,683	416	311	2,599,995	83,871
February	374	308	2,047,036	73,109	401	150	1,086,809	37,476	407	233	1,682,470	60,088	417	311	2,429,525	86,768
March	377	304	2,186,709	70,539	398	154	1,229,856	39,672	406	229	1,822,024	58,793	417	310	2,588,736	83,508
April	378	327	2,226,708	74,223	398	146	1,155,122	38,504	406	224	1,731,406	57,687	418	291	2,477,700	82,590
May	391	329	2,291,030	73,904	396	145	1,168,002	37,677	407	236	1,866,757	60,218	419	279	2,374,802	76,607
June	392	341	2,237,420	74,580	395	154	1,106,300	36,876	408	240	1,929,929	64,334	420	271	2,288,279	76,276
July	396	335	2,253,243	72,685	397	166	1,228,604	39,632	409	258	2,088,620	67,375	420	254	2,158,124	69,617
August	397	329	2,243,656	72,376	399	181	1,366,019	44,065	412	278	2,232,642	72,021	422	244	2,103,791	67,864
September	399	329	2,174,148	72,471	399	189	1,416,252	47,208	413	297	2,378,655	79,201	420	234	2,048,461	68,282
October	401	314	2,359,690	17,119	400	200	1,573,824	50,764	413	309	2,589,681	83,538	421	230	2,086,205	67,297
November	398	226	1,820,558	60,685	402	212	1,582,314	52,744	414	311	2,532,740	84,425	421	218	1,910,385	63,679
December	398	154	1,234,733	39,830	403	221	1,723,664	55,602	416	314	2,682,702	86,539	421	193	1,779,899	57,416
Total			25,249,732	*69,177			15,718,579	*42,947			25,325,099	*69,383			26,845,902	*73,550
			1911				1912				1913				1914	
January	421	210	1,766,658	56,985	421	227	2,052,806	66,220	423	297	2,787,800	89,929	423	199	1,879,336	60,624
February	421	226	1,781,285	63,617	422	235	2,098,796	72,372	423	306	2,578,670	92,095	423	219	1,888,607	67,450
March	421	236	2,165,764	69,863	420	237	2,411,529	77,791	423	278	2,762,823	89,123	423	232	2,341,551	75,534
April	421	220	2,044,904	68,163	421	239	2,377,621	79,254	421	297	2,754,353	91,812	422	212	2,261,501	75,383
May	421	206	1,871,388	60,367	423	243	2,503,341	80,753	421	285	2,816,825	90,865	422	198	2,097,019	67,646
June	421	202	1,773,282	59,109	424	242	2,433,737	81,125	422	283	2,616,883	87,229	422	193	1,904,566	63,486
July	423	196	1,776,108	57,294	422	245	2,402,567	77,502	422	264	2,558,275	82,525	422	187	1,955,324	63,075
August	423	206	1,921,832	61,995	423	255	2,500,163	80,650	424	260	2,537,018	81,839	422	187	1,996,483	64,403
September	423	216	1,973,918	65,797	419	262	2,444,454	81,482	425	258	2,494,098	83,137	422	180	1,882,718	62,757
October	421	214	2,092,061	67,486	422	280	2,683,645	86,569	425	244	2,539,924	81,933	422	162	1,767,227	57,007
November	421	214	1,999,100	66,637	423	289	2,639,562	87,985	424	225	2,229,960	74,322	421	150	1,501,269	50,042
December	422	215	2,032,301	65,558	423	291	2,777,292	89,590	424	191	1,976,188	63,746	421	154	1,495,325	48,236
Total			23,198,601	*63,558			29,325,513	*80,124			30,652,767	*83,980			22,970,926	*62,934
			1915				1916				1917				1918	
January	421	165	1,591,024	51,323	421	304	3,171,878	102,319	422	310	3,159,839	101,930	435	294	2,403,227	77,523
February	421	179	1,666,592	59,521	421	312	3,078,548	106,157	422	317	2,649,935	94,641	435	319	2,318,242	82,723
March	421	190	2,046,280	66,009	422	315	3,327,630	107,343	423	331	3,255,813	105,026	438	338	3,209,996	103,548
April	421	197	2,114,518	70,484	422	320	3,225,496	107,517	425	333	3,328,061	110,936	437	351	3,273,355	109,112
May	421	207	2,255,157	72,747	423	321	3,364,584	108,535	425	340	3,413,677	110,119	437	360	3,451,884	111,351
June	421	221	2,369,932	78,998	423	325	3,213,818	107,127	427	347	3,260,234	108,675	437	353	3,316,148	110,538
July	421	234	2,563,311	82,687	419	316	3,221,127	103,907	429	351	3,337,442	107,659	437	364	3,408,584	109,954
August	421	246	2,774,825	89,510	419	317	3,197,838	103,156	431	357	3,238,970	104,483	439	371	3,378,479	108,983
September	420	266	2,834,342	94,478	419	326	3,208,041	106,935	431	342	3,140,742	104,691	438	364	3,413,223	113,774
October	420	276	3,120,340	100,656	419	328	3,508,180	113,167	433	354	3,296,286	106,332	437	364	3,482,392	112,335
November	421	285	3,035,235	101,174	420	322	3,317,805	110,593	434	344	3,198,597	106,620	437	360	3,347,944	111,595
December	421	295	3,201,605	103,278	422	309	3,184,178	102,715	435	321	2,885,380	93,077	435	351	3,434,114	110,778
Total			29,573,161	*81,022			39,019,123	*106,609			38,164,976	*104,561			38,437,488	*105,308
			1919				1920				1921				1922	
January	435	330	3,306,279	106,654	432	285	3,012,373	97,172	436	184	2,414,753	77,895	430	127	1,645,804	53,090
February	435	311	2,943,347	105,120	432	305	2,984,257	102,904	436	155	1,929,394	68,906	429	139	1,630,180	58,220
March	435	279	3,088,023	99,614	433	315	3,375,768	108,895	436	103	1,594,866	51,447	429	155	2,035,908	65,674
April	435	216	2,474,374	82,479	433	278	2,752,670	91,754	436	96	1,190,751	39,691	429	161	2,070,161	69,005
May	433	197	2,107,729	67,991	433	297	2,991,825	96,510	436	90	1,215,272	39,202	427	175	2,309,348	74,495
June	433	199	2,114,028	70,467	433	302	3,046,623	101,553	436	74	1,064,007	35,466	427	191	2,362,455	78,748
July	434	240	2,424,212	78,200	434	291	3,043,918	98,190	435	69	864,642	27,892	427	170	2,403,030	77,517
August	432	266	2,742,081	88,453	434	306	3,145,536	101,468	436	69	954,901	30,802	427	143	1,810,665	58,408
September	433	163	2,480,790	82,692	434	317	3,124,308	104,143	435	84	985,795	32,859	427	189	2,024,008	67,466
October	432	216	1,864,424	60,142	435	290	3,288,341	106,075	435	95	1,234,450	39,821	428	218	2,629,655	84,827
November	432	252	2,407,369	80,244	435	255	2,935,081	97,836	429	120	1,414,958	47,165	428	241	2,846,110	94,870
December	432	262	2,626,074	84,711	435	202	2,700,268	87,105	429	123	1,642,775	52,992	428	253	3,083,520	99,468
Total			30,578,730	*83,777			36,400,968	*99,456			16,506,564	*45,223			26,850,844	*73,563
			1923				1924				1925				1926	
January	428	261	3,228,226	104,136	414	248	3,015,480	97,273	411	251	3,372,207	108,781	385	225	3,319,789	107,089
February	424	278	2,993,918	106,925	414	263	3,073,619	105,987	411	256	3,214,067	114,788	382	223	2,923,850	104,423
March	424	295	3,523,595	113,664	410	269	3,465,389	111,787	410	246	3,571,422	115,207	377	235	3,458,171	111,554
April	423	311	3,546,308	118,210	410	234	3,226,107	107,537	409	221	3,211,235	107,041	376	237	3,438,805	114,627
May	423	322	3,868,486	124,790	411	187	2,619,986	84,515	405	196	2,933,907	94,642	276	229	3,477,820	112,187
June	424	322	3,667,868	122,262	411	158	2,022,836	67,427	399	191	2,679,045	89,301			(See Page 110.)	
July	418	299	3,684,677	118,860	411	145	1,783,457	57,531	396	188	2,665,262	85,976	.....	.....	.....	.....
August	418	270	3,448,886	111,254	411	150	1,882,986	60,741	391	192	2,707,171	87,328	.....	.....	.....	.....
September	418	254	3,117,526	103,917	411	174	2,053,617	68,454	387	200	2,725,885	90,862	.....	.....	.....	.....
October	418	245	3,142,642	101,375	411	182	2,461,727	79,410	386	209	3,017,889	97,351	.....	.....	.....	.....
November	418	229	2,891,191	96,373	411	204	2,514,979	83,832	385	220	3,023,257	100,775	.....	.....	.....	.....
December	418	231	2,912,527	93,952	411	229	2,956,389	95,367	385	234	3,249,057	104,808	.....	.....	.....	.....
Total			40,025,850	*109,659			31,076,572	*84,908			36,370,404	*99,645			16,618,435	*110,055

Steel Ingots

Compiled by American Iron and Steel Institute

	Total	Av. daily	Total	Av. daily	Total	Av. daily	Total	Av. daily	Total	Av. daily
	1922		1923		1924		1925		1926	
January	1,891,857	72,764	3,841,095	142,263	3,649,913	135,182	4,193,281	155,307	4,150,469	159,633
February	2,071,772	86,324	3,471,843	144,660	3,826,246	153,050	3,752,352	156,348	3,801,776	158,407
March	2,814,667	104,247	4,066,680	150,618	4,206,699	161,796	4,194,340	161,321	4,488,362	166,236
April	2,902,240	116,090	3,963,736	158,549	3,348,466	128,787	3,583,676	137,834	4,123,941	158,613
May	3,218,794	119,215	4,216,355	156,161	2,640,034	97,779	3,454,971	132,883	3,945,336	151,744
June	3,127,775	120,299	3,767,256	144,894	2,065,676	82,627	3,204,451	123,248	.....	.....
July	2,952,806	118,112	3,531,458	141,258	1,877,789	72,223	3,084,472	118,634	.....	.....
August	2,629,256	97,380	3,695,788	136,881	2,552,891	98,188	3,429,998	131,577	.....	.....
September	2,818,261	108,395	3,356,776	134,271	2,827,625	108,755	3,489,565	134,214	.....	.....
October	3,410,265	131,164	3,577,091	132,485	3,125,418	115,756	3,888,814	144,030	.....	.....
November	3,430,309	131,935	3,134,321	120,551	3,121,149	124,846	3,902,900	156,116	.....	.....
December	3,300,416	132,017	2,863,266	114,531	3,569,251	137,279	3,970,918	152,728	.....	.....
Total	34,568,418	*111,511	43,485,665	*139,825	36,811,157	*117,984	44,140,738	*141,932	20,509,884	*158,991

*Average.